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ABSTRACT

This report covers four major aspects of the declining enrollment problem in Ontario, Canada, schools. Chapter 1 reviews the literature on the advantages and disadvantages of small high schools, including suggestions for operating small secondary schools effectively. Chapter 2 contains the results of an opinion survey of teachers, principals, and supervisory officers concerning the minimum acceptable size of elementary schools. This survey also gathered opinions on ways of maintaining quality education in smaller schools. Chapter 3 examines the financial implications of reducing school size, focusing on per pupil expenditure. Chapter 4 reports the results of 29 case studies on schools that have developed one or more alternative daytime uses for vacant school space. This report is a sequel to a 1975 report on declining enrollment, which focused on school closing. (Author/DS)

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EDUCATIONAL, SOCIAL, AND FINANCIAL IMPLICATIONS TO SCHOOL BOARDS OF DECLINING ENROLMENTS

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List of Abbreviations

JK - junior kindergarten
A/V - audio-visual
CV - coefficient of variability
ESD - English as a second dialect
ESL - English as a second language
FTE - full-time equivalent
K - kindergarten
PPG - pupils per grade
ROE - recognized ordinary expenditure

Preface

In the spring of 1974, The Ontario Ministry of Education entered into a contract with The Ontario Institute for Studies in Education to investigate the "Educational, Social, and Financial Implications to School Boards of Declining Enrolments." An advisory committee was established, composed of representatives of the Ministry, the OISE research team, and the school boards whose representations to the Ministry had prompted the initiation of the study.

It was realized early by the Committee that it would be impossible to carry out an exhaustive study of all aspects of the topic with the time and resources available. After studying a schematic model of the total problem, the committee decided that five major aspects of the problem should be investigated, viz:

1. The first activity was to be a series of case studies illustrating situations where a board had attempted to close a school. It was felt that such case studies would cut across the three facets of the problem: educational, social, and financial. Nine cases in six jurisdictions were studied and on the basis of these, and a search of the literature, suggested guidelines were prepared for school boards faced with the apparent need to close schools. The results of this study, together with an overview of the whole problem of declining enrolment and a review of selected references relating to the problem, were published in 1975.*
2. A preliminary survey of 40 Ontario school boards indicated that the greatest educational concern with declining enrolment was the probability that schools would decline in enrolment to the point where they would no longer be able to provide quality education. This

* E.B. Rideout; J.S. Murray; C. Sylvester; and M. Harris, *Meeting Problems of Declining Enrolment*. Toronto: Ontario Ministry of Education, 1975.

stance assumes that there is some minimum size of school below which it is impossible to offer a satisfactory educational program. It was decided, therefore, to sample the opinions of teachers, principals, and supervisory officers as to the minumum acceptable size of elementary schools of different types. Ancillary opinions were also sought, such as those concerning ways of maintaining quality education in smaller schools. The report of this study appears as chapter 2 of this publication.

3. The chief financial aspect of the problem studied was the relationship between size of elementary school and cost per pupil. Answers were sought to the questions: (1) Is there a size of school below which cost per pupil is so much greater than above it that the operation of such a school becomes uneconomical? and (2) What are the major reasons for higher cost per pupil (if any) in small schools? A feature of this part of the study was an attempt to control for differences in salary levels, experience levels, and levels of qualifications. The report of this study appears as chapter 3 of this publication.
4. Since there has already been a great deal of writing about and research concerning small secondary schools, it was decided not to replicate the elementary opinion survey with secondary school personnel. Instead it was decided to review the literature on the advantages and disadvantages of small high schools and on ways of trying to overcome the disadvantages. The report of this study appears as chapter 1 of this publication.
5. The major social implications for school boards of declining enrolments relate to the relationship between the school and its community. Part of this problem has been investigated in the first study.* It was decided to investigate the rest of that problem - the alternative daytime use of vacant school space when a school with declining enrolment is to be kept open. This project took the form of 29 case studies of schools which had developed one or more alternative daytime uses for their vacant school space. The report of this study appears as chapter 4 of this publication.

The final bibliography in the present report contains a few references not contained in either the first report* or in the reference sections of individual reports in this volume.

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*E.B. Rideout, et al. *Meeting Problems of Declining Enrolment.*

Related tables and questionnaires that are not included in this report are available on microfiche from the Ontario Government Bookstore in an addendum to the microfiche copy of the report.

The research team for the project was as follows: *Principal Investigator* - Professor E. Brock Rideout, Department of Educational Administration, OISE; *Associate Investigator* - Dr. John S. Murray, on secondment from the Metropolitan Toronto School Board; *Research Officers* - Ms. Christine Sylvester, Ms. Marion Harris; Ms. Lindsay Shanahan; *Secretary* - Ms. Margaret McCabe.

The thanks and appreciation of the research team are extended to the senior officials, principals, and teachers of the following Ontario school boards that participated in one or more of the aspects of the study: Central Algoma Board of Education; Dufferin County Board of Education; Durham Board of Education; East parry Sound Board of Education; East York Board of Education; Etobicoke Board of Education; Hamilton Board of Education; Huron County Board of Education; Huron-Perth County Roman Catholic Separate School Board; Kent County Board of Education; Niagara South Board of Education; North York Board of Education; Ottawa Board of Education; Ottawa Roman Catholic Separate School Board; Peel Board of Education; Peterborough County Board of Education; Saulte Ste. Marie Board of Education; Sault Ste. Marie Roman Catholic Separate School Board; Scarborough Board of Education; Simcoe County Board of Education; Timiskaming District Roman Catholic Separate School Board; Toronto Board of Education; Welland County Roman Catholic Separate School Board; York Borough Board of Education.

Aspects of the Topic Not Researched

An aspect of the problem of declining enrolment that was not covered in this study was that summed up in the expression: "reduction in force." As enrolment continue to decline, a point will be reached when attrition will no longer balance the decline in the number of teaching positions required. This will result in the need to terminate the contracts of tenured teachers. This eventuality poses serious problems for the Ministry, the universities, the school boards, and the Ontario Teachers' Federation and its affiliates. For the first two, the problems are related to the provision of teacher education. For the teacher organizations, the problems are related to the job security of their members. For boards, the problems, while serious, were not thought to be researchable at the time the study was conducted, since they had been experienced by very few boards; they are only beginning to be recognized now (1977) in Ontario.

EBR

1 Adequacy of Small Secondary Schools: A Review of Research Findings

INTRODUCTION

An overall trend of declining enrolments has not yet appeared in Ontario secondary schools, nor is it expected to until sometime between 1978 and 1980. The year-by-year increase in secondary school students was still evident in 1975, the last year for which firm figures are available. However, the rate of increase has shown considerable variation as may be seen from Table 1.

TABLE 1 -- ONTARIO SECONDARY SCHOOL ENROLMENT CHANGE 1967-1975

Year	Enrolment	Inc./Dec. Over Previous Year	% Change
1967	463,736	--	--
1968	500,807	+ 37,071	+ 8.0
1969	530,679	+ 29,872	+ 6.0
1970	556,913	+ 26,234	+ 4.9
1971	574,520	+ 17,607	+ 3.2
1972	583,013	+ 8,493	+ 1.5
1973	585,725	+ 2,712	+ 0.5
1974	589,650	+ 3,925	+ 0.7
1975	605,160	+ 15,510	+ 2.6

Brendan Barnett was awarded a graduate assistantship to review the relevant research on small secondary schools and write the first draft of this chapter of the report. John Murray and Brock Rideout edited and amended the chapter. The introduction and conclusions were written by the principal investigator.

It is to be noted that there was a marked deceleration in the rate of growth between 1967 and 1973: from an 8 percent increase in 1968 to an increase of only one-half of 1 percent in 1973. However the rate of increase began to accelerate again with a .7% growth in 1974 and a 2.6% growth in 1975. The expected smooth rate of decelerating increases and eventual decreases in secondary enrolments is masked by the year-to-year variations in drop-out, retention, and participation rates for students beyond compulsory school age.

Despite this overall trend of increasing enrolments, individual boards, and particularly individual schools, have been experiencing declining enrolments at the secondary level for some time. When declining enrolment does strike it will have its greatest effect on low-enrolment boards, and, within boards, on smaller schools. The net result will be smaller secondary schools. It becomes necessary, then, to be concerned about both the magnitude and the seriousness of the problem that will have to be faced when secondary school enrolments reach their nadirs.

The problem will not be as serious in Ontario as in some provinces and states because of the consolidation of school districts and the relatively larger schools. Of the 78 boards of education operating secondary schools in 1975-76, only 16 operated a single school and of these only six had enrolments below 700 students. As the decline in elementary schools carries over into high school, provincial secondary enrolment can be expected to drop by 18-20 percent in a six-year period. For some individual schools, particularly some of the smaller ones in the one-school boards, the drop could be as great as 40 percent.* This would mean that a 300-pupil school could drop to a 180-pupil school. Outside the one-school jurisdictions, there are an additional 132 secondary schools with fewer than 700 students (not counting schools with fewer than three grade or year levels). These will not pose as great a problem because boards will have the option of closing older schools and very small schools and transporting their students to other schools operated by the board. This solution will be less controversial where such students are already being bused to school. But closure will be a solution only in the most extreme cases. Most boards with schools of fewer than 700 students in 1975 will be concerned chiefly with the adequacy of small schools.

Instead of embarking on yet another study of small high schools, the project staff, with the concurrence of its Advisory Committee, decided to make a study of the literature on small secondary schools. A

*Based on variability theory for an overall drop of 20 percent.

great deal of research has been done and much written about the small secondary school in both Canada and the United States. The main body of this chapter is a distillation of much of that literature.

What Is a Small Secondary School?

There can be no definition of a small secondary school that is universally acceptable. What is considered small in one jurisdiction may be seen as large in another. However, for purposes of discussing the advantages and disadvantages of small schools, it is useful to agree on what is meant by a small school. Some writers have used the figure of 50 students per grade which, in Ontario, would mean a school of 250 students for a five-year program or one of 200 students for a four-year one. The *Report on the Small Schools Project of the Committee on Small Schools* (Harrison and Downey 1965) defined small schools as those with 300 or fewer students in grade 9 through grade 12, while Knowles and Black (1961) selected 500 students. Conant's influential reports, *The American High School Today* and *The Comprehensive High School*, considered schools below 750 students as small.

Perhaps each state and province defines "small" in terms of the distribution of schools by size in its own jurisdiction. Thus Harrison and Downey (1965) reported 25 percent of Alberta's high schools were "small," i.e. with fewer than 50 students per grade.

Table 2 shows the number and percentages of Ontario 3-, 4-, and 5-year secondary schools with enrolments in September 1975 falling below certain sizes and at or above those same sizes. From this table it will be seen that about 25 percent of Ontario high schools had fewer than 700 students. This figure might therefore be selected as the upper limit of a small school in Ontario. This figure is considerably too high, however, in an absolute sense, to be classified as "small." Perhaps the figure of 400 would be better for Ontario's purposes. In 1975 only 7.83% of 3-5-year schools fell below that point. In Ontario the term "very small schools" might apply to schools with fewer than 200 students -- only 1.78% of the schools.

If the estimate of a maximum reduction of 50 percent in enrolments caused by declining enrolment is correct, then only 44 of the present schools could end up as very small schools (fewer than 200 students) and a maximum of 173 or 31 percent of the schools could be expected to be in the small-school category (fewer than 400 pupils). This, then, is the magnitude of the problem in Ontario.

TABLE 2 -- NUMBER AND PERCENT OF ONTARIO THREE-, FOUR-, AND FIVE-YEAR SECONDARY SCHOOLS WITH ENROLMENTS IN SEPTEMBER 1975 BELOW AND AT OR ABOVE CERTAIN LEVELS

Schools Below Criterion		Criterion: September Enrolment	Schools at or Above Criterion	
No.	%		No.	%
562	100.00	2,900	0	0.00
561	99.82	2,800	1	0.18
561	99.82	2,400	1	0.18
560	99.64	2,300	2	0.36
558	99.29	2,200	4	0.71
549	97.69	2,100	13	2.31
546	97.15	2,000	16	2.85
540	96.09	1,900	22	3.91
531	94.48	1,800	31	5.52
521	92.70	1,700	41	7.30
505	89.86	1,600	57	10.14
487	86.65	1,500	75	13.35
454	80.78	1,400	108	19.22
422	75.09	1,300	140	24.91
367	65.30	1,200	195	34.70
317	56.41	1,100	245	43.59
259	46.09	1,000	303	53.91
213	37.90	900	349	62.10
173	30.78	800	389	69.22
138	24.56	700	424	75.44
102	8.15	600	460	81.85
68	12.10	500	494	87.90
44	7.83	400	518	92.17
25	4.45	300	537	95.55
10	1.78	200	552	98.22
1	0.18	100	561	99.82
0	0.00	0	562	100.00

The balance of this chapter attempts to assess the probable seriousness of the problem and determine what can be done about it.

THE WEAKNESSES OF SMALL SECONDARY SCHOOLS

This section of the paper will discuss the weaknesses of small high schools in six areas: finances, curriculum, student achievement, staffing, morale, and cultural opportunities. These categories are often interrelated. There is a continuum, with the weaknesses being most pronounced in the very small schools (enrolment under 200) and disappearing as the size approaches the 700-student level.

Finances

Although the lack of funds is a problem facing many schools today, it is of particular concern to the small secondary school. Many writers (Conant 1959; Clements 1970; Turner and Thrasher 1970) agree that schools with less than 200 students have higher per-pupil costs than do larger schools. However, two points should be noted in this connection. Firstly, some researchers base their calculations only on pupil/teacher ratios, which tend to show a significant cost difference between big and small schools. This can be misleading because non-teaching personnel are not counted; when these are included in determining costs, the gap between the large and small school is greatly reduced (Clements 1970). Secondly, if a school becomes very big (about 2,000) a point is reached where costs begin to increase again. The optimum size of a secondary school from the standpoint of costs is considered to be in the 800- to 1,200-student range (Smith 1961).

As one would expect, small schools are not always equipped with the same type of facilities one finds in large schools. Stutz (1965) and Edington and Musselman (1969) point out that special areas such as libraries, laboratories, gymnasia, and office space are sometimes inadequate or serve purposes for which they were not intended.

The lack of money often means that support services such as cafeterias and counselling cannot be provided (Templeton 1972). In addition students with special problems cannot be catered to and their needs either go unattended or the student has to go to some other institution for assistance.

Curriculum

Another major criticism of small secondary schools is that the scope and depth of their course offerings are limited (Conant 1959; Dickson 1964; Schoenholtz 1972; Ross 1972). This means that students have little choice in selecting their program and may be required to take courses in which they have little interest. This is particularly true at the senior vocational level where a school is not able or prepared to spend money on special equipment in areas such as Home Economics and Industrial Arts (Dickson 1964). Because of this weakness one finds that many small high schools tend to be academically oriented.

There is often an absence of special programs for both the gifted and the slow learner because of the cost and the limited numbers involved. There is also a tendency for teachers to concentrate their efforts and their courses in a manner that is of greatest benefit to those who are trying to go to university (Swanson 1970).

Two other problems small high schools may face are the difficulties in changing courses and providing new ones to meet the needs of students and the society in which they live (Committee on Small Schools 1974), and the problems facing the student who has to transfer from a large school to a small one. Adjusting to a new environment is made more difficult by the problem of finding a suitable program, when offerings are limited. But transfers are more frequent in the other direction, from small to large schools, and this too can pose problems for students.

Student Achievement

A charge often levelled at small secondary schools is that their students perform less well academically than do pupils at large schools (Conant 1959; Keisling 1968; Minnesota Public School Survey Committee 1969). However the issue is not clear cut. There are a number of researchers who have found that size makes little difference. At least one study found that there was no significant difference on scores obtained by first-year university students coming from schools of varying sizes (Gray 1962). When other variables are introduced in the school-size/student-achievement controversy, such as father's occupation, family attitudes, and socio-economic index, the correlation between these two variables becomes negative (Clements 1970; Templeton 1972).

Staffing

One of the greatest difficulties facing small schools has traditionally been acquiring qualified teachers. Turnover in small high schools has tended to be higher than in large schools because they are often located in rural and/or isolated areas (Templeton 1972). In the last few years this problem has eased considerably as more teachers have become available and urban areas have become less attractive. Nevertheless there could be a problem for small schools should another teacher shortage occur.

Although teachers at a small secondary school enjoy a much closer relationship with one another and with their students than is the case in large schools (Clements 1970), they do face some handicaps. Professional contacts, in the form of assistance and discussion in specialized subject areas, may be limited where the staff is small. This may be of particular concern to a new teacher who has had no previous experience in handling a particular problem. It also happens that teachers will be asked to teach in a subject area in which they have little competence or experience (Committee on Small Schools 1974). Closely related to this point is the fact that specialists may not be able to use their expertise as fully as they would in larger schools (Dickson 1964).

The small number of students often means that a particular course will be taught only once a day. This requires a teacher to prepare for more classes than is the case for a teacher at a large school, who can repeat a lesson one or more times.

Morale

Morale can be a problem in any school, whether big or small. In the minds of many in our society, there is often the equation of big equals better. This attitude sometimes gives those at a small school the feeling that they are inferior (Committee on Small Schools 1974). The administration in a small school has a great influence and if this notion is present at that level it is very difficult to overcome.

Morale can suffer as a result of inter-school extra-curricular competition. A large school is able to select the best students to participate in competitive activities. The small school often has to take all comers to form a team or club. This usually means that the smaller school is not as successful and may develop a defeatist attitude.

The community plays an important role in many small high schools. If their influence becomes overbearing it can adversely affect the administration, teachers, and students to the detriment of all (Committee on Small Schools 1972).

In a small school everyone knows everyone else and takes an interest in them. This can become a weakness because there are times when one wishes and needs anonymity. This can be hard to achieve at a small school for both students and teachers. Some teachers feel that they are not as free to socialize as they would be in a city because they encounter students and parents. There are times when students need to be on their own. When this desire to be free from others is frustrated it can weaken a school's morale.

Cultural Opportunities

Students at small high schools tend to be homogeneous groupings and therefore have little contact with others from different backgrounds and cultures (Committee on Small Schools 1974). This is not as serious a problem for schools in urban areas but if the school is rural and/or isolated there is a definite potential for cultural impoverishment and a lack of the broadening that contact with "different others" provides.

Conclusion

Many of the weaknesses indicated above will be found only in the very small schools. Most of these problems can be alleviated as indicated in the next section. At the 200-400-student level many of these difficulties are quite manageable if there is determination and willingness by all concerned. But as the enrolment declines toward the 100-student mark these weaknesses become very difficult, if not impossible, to overcome.

[illegible]R OPERATING SMALL SECONDARY SCHOOLS EFFECTIVELY

Few would challenge the statement that the objectives of education are very similar, if not identical, in both small and large secondary schools. But the operating procedures and administration of the two sizes of school are quite different. Ways in which small secondary schools can be operated

to offset some of their weaknesses are suggested in the following areas: finances, curriculum, staffing, morale, student achievement, and cultural opportunities.

Finances

There is sufficient research to prove that small schools are relatively more expensive to operate than large ones. Exact figures are difficult to obtain because, as noted previously, the methods of calculating costs vary. The very small schools (i.e. those with enrolments of 100 or fewer students) are expensive with costs per pupil almost as much as double those of schools of 1,000 plus (Rosenberg 1970). However in some instances benefits to the community, to family life, and to the individual student justify the extra expenditure. Where the only alternative to a local high school would be very long bus rides (over one hour each way) or residential schools, then additional funding should obviously be considered (Small Senior Secondary School Study Committee 1974).

One of the most important ways to reduce costs is to share facilities and resources with an elementary school or schools (Committee on Small Schools 1974). Certain traditions and practices have evolved in many areas which result in a sharp division between elementary and secondary schools. But there seem to be few reasons, except custom, why these two levels could not share the same physical plant, office personnel, equipment, and support services. There would be a need for cooperation and coordination but this should be no more difficult than that required in a large secondary school. Sharing would reduce duplication of expensive items and permit greater utilization of facilities than would occur in separate buildings. The biggest obstacle to overcome in implementing such a system is resistance to change. There seem to be few reasons why a board cannot use some of its support services such as consultants, supervisory officers, and special equipment at both the high-school and elementary levels.

Another difficulty facing many small high schools is the lack of funds for special equipment or facilities. In cases such as these, Dickson (1964) suggests that direct appeals to parents and others in the community should be made. When clear explanations of the uses to which the money obtained will be put are made, it is often just a matter of collecting the funds. Where relations between small schools and the

community are good, such a drive will often intensify this feeling and build morale in the school. This practice is effectively used by many private schools and, as participation is voluntary, there are few who object.

Many high schools provide some or all of the funding required for extra-curricular activities such as basketball, football, and choirs. While the amounts involved may be a small percentage of the operating budget of a school, they are a cost that could be borne by the students' council or similar body. This has a twofold benefit. Firstly, it saves money that can be directed into other areas. Secondly, and possibly of greater importance, it gives the students' council a very tangible *raison d'être*. It requires students to work together to decide on how to spend their dollars. Such a policy increases the students' stake in their school and assists in the development of morale and spirit.

Curriculum

A criticism often leveled at the small high school is the narrow range of curricular offerings. One method suggested by Schoenholtz (1972) to correct this is what he calls the Linear Curriculum Expansion Project (LCEP). Using this approach, the school year is divided into four nine-week sections. Each of these units becomes a separate course or credit. In some areas prerequisites would be necessary such as in studying a language or in mathematics. This system has the ability to dramatically increase course offerings thereby meeting the needs of the students without increasing the staff required. The semester system is one variation of this idea which is being used in many schools both big and small.

Another method of increasing course offerings is through correspondence courses, a system which has been available in Canada since World War I. These can be used in a variety of ways. A student can work independently at home without any involvement by the school. Broady and Broady (1974) suggest that supervised studies could be timetabled into a student's program. This would not require any extra preparation on the part of the teachers at the school. Needless to say, a teacher familiar with the area a student is studying may be able to provide assistance if problems arise. A Nebraska study (Childs 1949) found that students who had studied mathematics by correspondence completed their college work with an achievement one grade point higher (on a nine point scale) than those who had been taught by conventional methods.

The advent of modern technology is of great benefit to the small secondary school. It is now possible for all schools to avail themselves of methods such as educational television, film, conference-type phone calls by which students can listen to and question experts living in other areas, programmed learning, and computer-assisted instruction (CAI). These methods could be used to enrich an existing course or, in the case of the last two, could constitute an entire course.

Another system in use in many areas is what the Catskill Area Small Schools Project (1959) refers to as "multiple classes." In this type of instruction a teacher may teach two or more grades of the same or similar subjects in the same period. This method permits a school to increase the number of offerings and increase the average class size. Thus a school can offer courses where enrolment below a certain number would require cancellation of the course as too few students would have made it prohibitively expensive to run.

While one may be concerned about the preparation load of the teacher in a multiple-class situation, a number of points need to be kept in mind. Enrolments in each course would be small, and some students would be on part- or full-time independent study such as correspondence courses or programmed learning. Furthermore the teacher in the small school who may teach eight or ten different subjects may be carrying no heavier a load than a teacher responsible for only one or two preparations a day but with five or six large classes when factors such as marking are taken into consideration (Broady and Broady 1974). However it is suggested that similar subjects should be taught together, such as different types of mathematics or languages. It has been noted that a teacher will have a much heavier work load the first year teaching multiple classes (Catskill Area Small School Project 1959) but this would not be much different than teaching any other course for the first time.

Other methods of improving the curriculum in small high schools are the use of paraprofessionals and teaching aides, an approach that is working well in large schools. A cooperative education arrangement could also be established whereby students would gain credit for work done with local businesses or services (e.g. hospitals, government, etc.). This arrangement is of particular value to small high schools which wish to offer vocational training. Naturally the nature of the community and the willingness of its leaders will influence the feasibility of such a

program. In most instances where such a program has been implemented it has worked satisfactorily for all concerned (Committee on Small Schools 1974).

Curricular opportunities for students could be broadened for students from small schools by arranging inter-school visits. Students would go on exchange visits to other schools to get exposure to and training in certain subject areas not available to them in their own school. A possible variation of this is suggested by Ford (1961) whereby small groups of students could be brought to special centres for intensive training for short periods of time. It does not appear that these suggestions have been implemented on any consistent basis at this time (Committee on Small Schools 1974).

Staffing

The shortage of teachers was a problem that all schools faced in the 60's but it was particularly hard on small schools. In the past five to six years this difficulty has been overcome due to the increased number of qualified teachers being trained. There has also been a desire by some to move out of the big cities to smaller communities. The combination of these factors has helped small schools attract more and better qualified staff. This situation now permits the small high school to be more selective when hiring teachers. In an effort to provide the greatest flexibility and planning in curriculum, the small school should attempt to hire well-qualified generalists who can teach in several areas rather than single-field specialists. This would permit a principal to use teachers in several areas and offer new courses in response to the needs expressed by students and/or community.

The implementation of a semester system will be of benefit to many teachers, particularly if full credits are offered, as this will tend to reduce the number of preparations per day or week (Brophy 1975). If half or quarter credits are given, this advantage may not be as great.

Teachers working at small secondary schools need different training. One suggestion is that universities and teachers' colleges should set up special courses designed for those who teach at these schools (Small Senior Secondary School Study Committee 1974). The Committee on Small Schools (1974) suggests that in-service training programs should be run on a regular basis for teachers and administrators at small schools.

They need skills that may be handled by specialists in a large school. For example, teachers in a small school often take a more active role in guidance than do their counterparts in large schools. An in-service program would help teachers to do a better job in this area than they might otherwise do.

Morale

The principal is the key person in establishing morale in a school. If this person sees his or her stay at a small school simply as a step up the ladder to further administrative jobs and conveys to the staff an attitude of indifference toward the school, it will rub off on them and affect students as well. However, if he or she has a strong positive attitude this will also be detected and be reflected by teachers and students. The principal must promote new ideas and fight very hard for the wants and needs of the school (Dickson 1964).

If competition with other schools is responsible for a negative attitude in a school then serious consideration should be given to reducing or eliminating such participation. If, for example, a small high school has to compete only with large schools in sports and continually loses it may wish to withdraw from competition. It could concentrate on intra-mural activities or play other small schools by having invitational tournaments or similar programs, or the school could decide to compete only in those areas where it has a reasonable chance of competition on an equitable basis.

Student Achievement

This is an area, as mentioned in the section under weaknesses, where there is no clear indication that students from small high schools do not achieve as well as those in larger institutions when other factors such as father's occupation and socio-economic factors are taken into consideration (Clements 1970; Templeton 1972).

It may be argued by some that the poor quality of instruction may be responsible for lower achievement. If this is the case then the better trained and qualified teacher should help improve the situation. However it should be remembered that Gray (1962) found no significant difference in first-year college scores between students from large and small schools. Coker (1967) noted that the drop-out rate from university was lower among those who had come from small high schools.

Cultural Opportunities

Exposing students in small high schools, especially those in rural and/or isolated areas, to cultural activities is difficult and often expensive. Sending students on field trips to other areas of the province or countries is one method. Exchange of students and/or teachers is another. Both of these solutions tend to be expensive even though both the federal and provincial governments do provide some funding in this area.

Another approach, and an inexpensive one, is to bring members of the community or visitors to it into the school.

One may also wish to argue that the advent of satellite communication, even to the most remote areas, makes the cultural deficiency of small schools potentially less serious than it once was.

Conclusion

There is no doubt that small secondary schools, especially very small ones, face some difficulties. However two points need to be kept in mind. Firstly, the large schools face some serious problems that small schools do not have to contend with as will be shown in the next section. Secondly, most of the weaknesses of the small school can be compensated for or corrected if there is a willingness to do so on the part of province, board, principal, teachers, and community.

STRENGTHS OF SMALL SECONDARY SCHOOLS

Not only can many of the weaknesses of small secondary schools be offset, but also there exist definite strengths in such schools. These strengths can be outlined under six major headings: administration, the teacher, the student, guidance, the community, and atmosphere. These categories are for the convenience of discussion only as it can be readily seen that there is overlap among the groupings.

Administration

An often-stated strength of small secondary schools is that one does not find the same degree of bureaucracy and "red tape" as in large institutions (Cohen 1970; Roberts 1971; Schoenholtz 1972; Hickcox and Burnston 1973). Schools with large numbers of students and teachers require a

hierarchy, formal rules, and modes of communication. Familiar to many are schools that have several vice-principals, as well as major and assistant department heads, with teachers, to say nothing of students, far removed from the top administrator. In the small high school, the administrator's job is not as onerous and therefore fewer people are needed and the individual has more time for personal contact with staff and students. It is not unusual for a principal in such a school to know the names of most pupils and to chat with them in the halls as well as to spend some lunch hours or coffee breaks with the teachers.

The de-emphasis on bureaucracy means that there are fewer rules and written communications. This allows for greater flexibility of action and decisions can usually be made more quickly than is the case in large schools (e.g. student requests for social functions, teachers' special projects).

Shapiro (1958) found that there were fewer problems with group cooperation and that this led to greater confidence among teachers. This feeling by the staff also contributes to a more consistent enforcement of school rules and thus fewer problems for the administration.

Another asset of small schools is that more teachers are able to get involved in the administrative side of the school (Holdaway 1972). The small numbers permit a principal to get input from the faculty when decisions on school policy are to be made. In short, it is possible for individuals to make a greater impact on and contribution to the school than would be the case in a large high school.

The Teacher

One would have to say that the single most important strength of small high schools is the presence of a strong human-relations dimension. As a general rule, classes tend to be smaller in these schools, especially in the senior grades. While this means a lighter marking load, the major benefit is that the teacher gets to know students better and is able to provide more individual attention. It also becomes possible to conduct courses in a manner that better meets the needs of the students. This means the teacher can be more successful and thus gain greater satisfaction.

In a small school teachers are often able to teach in one or more subject areas. This is a great boon to those who feel restricted teaching

the same subject to the same grade level three or four times in one day. The variety gives a broader scope and awareness of developments in other disciplines.

As noted in the section on administration, teachers are able to be more involved in the administrative affairs of the school, thus deriving greater personal fulfillment from the evidence that they are important in the running of the school. It has also been noted (Turner and Thrasher 1970) that this results in teachers in small high schools being more receptive to supervision and change than are their counterparts in large schools.

In the small schools, teachers know one another better and are better able to help one another. It is easier for them to discuss problems, coordinate activities among themselves, and meet socially as a community. There is not the same degree of cliquishness or departmental grouping as is found in big schools. Professionally it is easier to identify the ineffective teacher and to provide him or her with the assistance needed (Schoenholtz 1972). This is of particular benefit to the new teacher who is able to get support from his or her colleagues.

The Student

Most educators would agree that there is much more to education that the acquisition of knowledge. The majority of teachers hope that they are developing students as complete persons. One of the more important ways in which schools contribute to the development of young people is through their participation in extra-curricular activities. Research indicates that small high schools, in many cases, have extra-curricular offerings similar to those of large high schools. But in the latter, competition for positions on teams and clubs is such that only the best participate. Barker and Gump (1964) found that students in small high schools, on the average, participate in several times as many activities as do students in large schools. More specific studies (Wicker 1969) found that more juniors in small secondary schools had significantly more positions of responsibility than juniors in large schools. Their levels of satisfaction were also much greater than were those of students in large schools (Barker and Gump 1964).

There is much research to support the higher involvement in small high schools but what does this mean for the student? The high-school years are a time when young people are learning a great deal about themselves and their relationships with others. Because of the greater

involvement in school life, students often have greater confidence and self-esteem (Schoenholtz 1972; Small School Study Committee 1974). Turner and Thrasher (1970) found that students in small high schools exhibit greater responsibility for self-direction than do those in large schools. In the same study they noted that students in small schools had significantly higher cognitive-complexity scores than did students in large schools. Taken collectively, these studies indicate that the student from the small secondary school is likely to have greater opportunity to be involved than his or her counterpart in large schools and to benefit from this participation by way of improved mental and social skills.

The Community

Recent studies in education and other areas are indicating the importance of the community to a school (and vice-versa). It has been found that parents of students in small high schools tend to be more aware of and involved in school life than are parents of students in large secondary schools (Small School Study Committee 1974). They tend to support the school more by participating in parents' nights, social functions, and other activities. This is particularly the case if they went to the school themselves. Communication between the school and parents also tends to be better and one finds that teachers will get to know more parents and to know them better.

An important benefit for many is that the time students have to spend riding buses back and forth to school is reduced in the case of small high schools (Clements 1970). This helps retain the sense of community.

Guidance

As Roberts (1971) notes, the guidance department of our large high schools has become the repository of all the problems of staff/student relationships. With increased school size, it is often the case that a guidance teacher never sees a student in a classroom context. In the small high school this type of departmentalization is not as likely and guidance becomes the responsibility of all staff members. The student is thus permitted to select a teacher that he or she feels he or she can talk to rather than being directed to an individual with this specific responsibility. This means that both teacher and student know each other better

and therefore the quality of guidance will be improved (Clements 1970; Schoenholtz 1972).

Guidance is not just the discussion of future plans and the solving of personal and academic problems; it is larger than this. Students learn a great deal by example from contact with adults and in particular with teachers. Both Roberts and Clements believe that student unrest can be attributed, in part, to large schools. In these schools there is greater potential for the individual to be involved in a huge peer group of poorly supervised adolescents who know little of life through experience and who listen to no one but themselves or are the victims of group pressure (Clements 1970). Both also suggest that the extra guidance needed by students from teachers and parents can be provided more readily in the small high school.

Atmosphere

Atmosphere is an intangible thing and very difficult to describe. It involves feelings, spirit, attitude, and many other dimensions which, although very real, are hard to measure and evaluate.

Morale often tends to be better in small high schools (Clements 1970). There is much greater human contact (Roberts 1971) which reduces the frustration of not being able to participate and be involved. All students and teachers are important and missed if they do not carry their load (Barker and Gump 1964). In competition with other schools, because students know one another, there is greater loyalty and school spirit. If the school has existed for some time, there are often traditions and a sense of pride which strengthen cohesiveness and identification with the school. These feelings permeate both staff and students. In large schools these types of ties are much weaker and weaken as the size increases (Turner and Thrasher 1970).

In a large school it is possible for a person with problems to be ignored because of the large numbers. In the small school where communication is better and people know one another better, it is possible to meet the emotional and psychological needs of students more fully (Schoenholtz 1972). Knowledge of the community and family background helps facilitate this.

Small high schools usually have fewer and less serious discipline problems. In a setting where most students are known by name to the teachers (and to one another) the risk of being identified for some misdeed is much greater; increased surveillance yields increased social control.

Conclusion

The expectations one has for a school have a strong bearing on how one sees it. The strengths and weaknesses of an institution reflect in part the goals of the viewer or judge. Some of the points noted above as strengths may be correctly viewed as weaknesses by persons with different expectations.

SUMMARY AND CONCLUSIONS

Except for a few boards and some individual schools, declining enrolments in secondary schools do not yet constitute a major problem in Ontario. Secondary school enrolment elasticity caused by varying participation rates among students beyond compulsory school age makes enrolment prediction more difficult at the secondary than at the elementary level. There is always the possibility that a larger percentage of the secondary school age group will stay in school or return to school and mask a predicted decrease in secondary enrolment.

Even when declining enrolment does hit the secondary schools, the educational implications will probably not be very serious. Most Ontario secondary schools are large enough so that after the decline they will still be of satisfactory size. Some are so large that declines in enrolment could bring educational advantages rather than disadvantages. Only a very small percentage are so small that serious educational problems could result.

The social implications are harder to determine. The psychological shock to a community of learning that it is "going down hill" after a three-decade period in which growth meant progress and progress was good will be blunted because the realization will have already come and been assimilated at the elementary school stage. If the research reviewed in this chapter is valid, there should be increased possibility for greater community involvement in secondary schools, both in program and in the use of vacant school space for community use. But this will not come about automatically because of decreased size alone. School boards and school staffs, as well as parents and community groups, will have to work to make it come about.

Finally, there are certainly cost implications in declining secondary school enrolments. Most of the research reviewed in this chapter indicates

that pupil/teacher ratios were lower in smaller schools -- a fairly certain indication of higher costs per pupil. Even if the larger schools are able to maintain their pupil/teacher ratios in the face of declining enrolments, there are other factors that will increase cost per pupil, chief among which are the maintenance and operation of vacant space and of space used for community purposes.

Suggested actions for school boards in preparing for declining enrolments in secondary schools include the following:

1. Assess the possible uses for which vacant space in secondary schools might be used to:
   a) upgrade the academic program;
   b) enrich the academic and co-curricular programs;
   c) accommodate activities of general community benefit;
   d) accommodate activities of benefit to special sectors of the community;
   e) accommodate offices of municipal, regional, or county government or agencies thereof;
   f) provide space for certain tenants from the private sector.
2. Prepare contingency plans for the possible phasing out or consolidation of schools which might be expected to fall below some board-determined minimum enrolment such as 100 students or 30 students per grade.
3. Encourage staffs of schools with fewer than 700 students to investigate such things as:
   a) the Linear Curriculum Expansion Project (LCEP) and other semestering systems that can increase the range of curricular offerings in smaller high schools,
   b) the use of correspondence courses for certain small-enrolment options,
   c) the use of multiple classes in which two or more levels of the same or similar subjects are taught by a teacher in the same time period,
   d) work-study programs with local enterprises,
   e) inter-school visitation,
   f) greater use of paraprofessionals,
   g) taking small groups of students to special centres for intensive teaching for short periods of time,

h) cancellation of inter-school sports with large schools if such competition is resulting in lowered morale,

i) use of more members of the community or visitors to it with special skills and knowledge to enrich the cultural and social milieu of the school,

j) requiring most funding for co-curricular activities, including sports, to be provided by students' councils so as to build greater school morale and community involvement.

4. Consider the sharing of facilities and resources by elementary and secondary students.

5. Make certain that smaller schools are adequately equipped; investigate the use of educational TV, programmed learning, and CAI in such schools.

6. Reconsider staffing and salary policies for schools that are expected to be hardest hit by declining enrolment. This might include such things as:

   a) a bonus in the salary scale for teaching in small and/or isolated schools,

   b) on-going in-service training programs for teachers and administrators of small schools,

   c) a somewhat lower pupil/teacher ratio in smaller schools (already being done by some boards),

   d) a conscious policy of hiring well-qualified generalists who can teach in several curricular areas,

   e) hiring principals and other staff who prefer to work in smaller schools.

7. Put pressure on the Ministry, universities, and others involved in teacher education to operate special courses designed for those who will teach in smaller schools.

Conclusions

This chapter has attempted to outline the main strengths and weaknesses of small high schools and has included some suggestions on how the weaknesses may be alleviated. It was noted that small schools usually are much less bureaucratic and have a much stronger human-relations dimension than large schools. Inter-personal relationships between student and teacher, teacher and teacher, teacher and administrator, and school and

community are generally more intense in small schools. This permits the individual to make a greater contribution and enhances his identity and self-esteem.

Greatest weaknesses are thought to be in the areas of finance and curricular offerings. While there are higher costs and fewer courses in the very small schools the differences between the small and medium-sized school are not great. Careful hiring and allocation of staff coupled with flexible scheduling of classes, the use of technology, and correspondence courses can extend the range of course offerings. A strong positive attitude on the part of the principal and teachers will overcome feelings of inferiority and boost morale in small schools.

To decide whether a large or a small high school is better, one needs to keep in mind the frame of reference of the respondent. In many cases those who are involved *in* the school (i.e. teachers and students) prefer the more personalized atmosphere of the small school. Board members, parents, and others who view the school from the *outside* tend to favour the large schools. Perhaps boards and schools faced with declining enrolments should take heart from this statement of August Gold (1975):

> Educational philosophy, land economics, cost benefit, environmental strategy and the social psychology of decentralism all reinforce an evolving conclusion: The small school is the educational shape of today.

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2 Minimum Acceptable Size of Elementary Schools: Findings of a Professional-Opinion Survey

INTRODUCTION

Any consideration of the educational implications to school boards of declining enrolment must relate such a decline to the effectiveness of smaller as opposed to larger schools. Conventional wisdom states that, in a situation of declining enrolments, individual schools will decline in population to the point where quality education will suffer. Is there indeed some minimum size of school below which it is impossible (or uneconomic) to offer a quality education program?

In order to determine the views of teachers, principals, and supervisory officers about the minimum size of a satisfactory elementary school, a survey was undertaken in the spring of 1975. It was hypothesized that opinions about minimum size might be related to such things as (a) the length and breadth (in terms of type and level of elementary school) of teaching and administrative experience, (b) the level of formal qualifications, (c) the size, type, geographical location, and degree of urbanness of the employing board, (d) present position, and (e) personal preference for schools of various sizes. The study was designed to establish the existence and nature of such relationships.

The research reported here was carried out under the general direction of the principal investigator who was also the editor and part author of the final report. Christine Sylvester was responsible for supervising the collection and analysis of the data and for preparing the first draft of this report. John Murray was chiefly responsible for the design of the data analysis and for the form of presentation of the results.

THE SAMPLE

Questionnaires were administered to teachers, principals, and supervisory officers in 21 Ontario boards. Early in the study 40 school boards were selected that represented the major variations in size and population density found throughout the province, the public and separate school systems, and northern and southern Ontario. Nineteen of these 40 boards expressed an interest in cooperating in the study. When scheduling difficulties prevented one board from participating, three smaller boards were substituted.

A sample of teachers reflecting the distribution of teachers in elementary schools in Ontario according to type and size (by enrolment) of school was selected from these 21 boards. Three major types of schools were included: (a) K-6 (including JK/K-5, 1-5, JK-6, 1-6); (b) K-8 (including JK/K-7, 1-7, JK-8, 1-8); and (c) 7-8 (including 5-8, 6-8, 7-9). All remaining elementary grade combinations, numerically small, were grouped into an "other" category. School enrolments were grouped into four size ranges: (a) up to 150 pupils, (b) 151-300 pupils, (c) 301-500 pupils, and (d) over 500 pupils.

Using September 1973 enrolment figures, the distribution of teachers on the basis of these groupings was determined and a sample of 1,578 teachers in 144 schools was selected approximating that distribution. However, to ensure that a sufficient number of teachers from small schools and 7-8 schools was included to facilitate analysis, these two groups were deliberately over-represented in the sample.

Questionnaires were distributed to the teaching staff of each school by a member of the survey team who remained with the staff while the questionnaires were being completed and provided any necessary clarification. Completed questionnaires were received from 1,349 teachers.

At the same time, a separate questionnaire was administered to principals* and vice-principals in the 144 schools. Completed questionnaires were received from 167 of them.

The sample of supervisory officers included all those associated with elementary schools and employed by the boards in the sample. While

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*All further references to principals in this study include vice-principals.

it was realized that this was not a representative sample of the supervisory officers in the province, it was thought to be wise to establish the opinions, on minimum size, of the supervisors of teachers and principals polled. It was felt that supervisory officers' opinions might vary in some respects from those of both the teachers and principals. These questionnaires were distributed by mail and completed questionnaires were received from 120 supervisory officers.

Table 3 compares the distribution by type and size of school of the teachers who completed the questionnaires with that of the 1973 teacher population.*

Relative to the population, the study sample somewhat over-represents teachers from smaller schools, K-6 schools, and "other" schools, and underrepresents those from larger schools and K-8 schools.

To determine the effect, if any, of this bias in the sample, a set of correction factors was devised to adjust the sample, making its distribution proportional to that of the teachers in the 1973 population. Frequencies were obtained for the adjusted sample for all items in the questionnaire and compared to those in the study sample. For the most part, the effects of the correction were slight and consequently the unadjusted sample was used to develop cross-tabular tables. However, frequencies for both the actual and adjusted sample on the question of minimum size of elementary schools are reported in the Appendix (Tables A3, A4, A5, and A6, pages 93-96).

No adjustment was made to the principals' sample to match the 1973 population distribution by type and size of school.

A description of the sample according to selected board, school, and individual characteristics for each of the three groups that were surveyed is presented. The board characteristics considered were the degree of urbanization, the size according to elementary enrolment, geographical location, and type (separate or public). School characteristics (for teachers and principals) included the type of school (K-6, K-8, 7-8 and

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*The distribution of the principals who completed the questionnaires according to the size and type of school in which they were located appears in Appendix Table A1, page 92.

TABLE 3 -- DISTRIBUTION OF TEACHER POPULATION (SEPTEMBER 1973) AND STUDY SAMPLE BY SCHOOL TYPE AND ENROLMENT RANGE

Type of School		Size of School									
		Up to 150 students		151-300 students		301-500 students		Over 500 students		TOTALS	
		No.	%	No.	%	No.	%	No.	%	No.	%
K-6 (including JK/K-5, 1-5 JK-6, 1-6)	P*	879	1.61	4,821	8.83	7,837	14.36	6,991	12.81	20,528	37.61
	S#	83	6.20	134	10.00	186	13.80	179	13.30	582	43.20
K-8 (including JK/K-7, 1-7 JK-8, 1-8)	P*	967	1.77	4,966	9.10	9,911	18.16	10,778	19.75	26,622	48.78
	S#	64	4.70	118	8.80	139	10.30	190	14.10	511	38.00
7-8 (including 5-8, 6-8, 7-9)	P*	105	.19	699	1.28	2,417	4.43	2,941	5.39	6,162	11.29
	S#	5	.40	60	4.50	70	5.20	51	3.80	186	13.80
Other	P*	197	.36	404	.74	506	.93	162	.30	1,269	2.32
	S#	23	1.70	19	1.40	25	1.90	0	0	67	5.00
TOTALS	P*	2,148	3.94	10,890	19.95	20,671	37.87	20,872	38.24	54,581	100.00
	S#	175	13.00	331	24.60	420	31.20	420	31.20	1,346	

P* = Population; S# = Sample

other) and size by enrolment. Individual characteristics that were considered for all three groups were the number of years of teaching and/or administrative experience, the range of experience (in terms of type and size of school), and the level of formal qualifications. In addition, for teachers, the grades taught and the type of class taught (single, mixed, rotary) were taken into account and for principals, whether they were teaching on a regular basis.

Description of Sample by Board Characteristics

In Table 4, the distribution of the teacher, principal, and supervisory officer samples according to the four board characteristics is shown.

Large city boards were represented by almost 40% of the teachers and just over 30% of the principals, while entirely rural boards (those whose jurisdiction did not include a city) were represented by 10% and 15% respectively. Nearly equal percentages of teachers and principals in the sample were employed by county boards that included a large city (about one-fifth of each group) and just under one-third of each were from county boards that included a small city.

Slightly more than 16% of the teachers, and 21% of the principals were from northern boards.

Approximately one-fifth of the teachers were located in boards with 8,000 or fewer elementary pupils while almost 45% represented boards with elementary populations of more that 15,000 students. Principals from large boards accounted for two-fifths of the sample while the remaining three-fifths were almost equally divided between medium boards and small boards.

Just over three-quarters of the teachers and just under that proportion of the principals were associated with public school boards; the remainder were from separate school boards.

The sample contains a disproportionately high percentage of supervisory officers from highly urbanized (70%), public (93%), large (73%), and southern (97%) boards. This bias is a reflection of the relationship between the four categories of boards as well as a result of the sample selection procedure.

TABLE 4 -- NUMBER AND PERCENT OF TEACHERS, PRINCIPALS AND SUPERVISORY OFFICERS IN STUDY SAMPLE FROM EACH TYPE OF BOARD

Board Characteristic	Teachers		Principals		Supervisory Officers	
	No.	%	No.	%	No.	%
Degree of Urbanization						
Large City Boards	535	39.7	53	31.7	84	70.0
County* Boards which include a Large City	261	19.3	34	20.4	18	15.0
County* Boards which include a Small City	414	30.7	65	32.9	13	10.8
County* Boards without a City	139	10.3	25	15.0	5	4.2
Geographic Location						
Northern	221	16.4	35	21.0	4	3.3
Southern	1,128	83.6	132	79.0	116	96.7
Board Size by Elementary Enrolment						
Small (up to 8,000 students)	297	22.0	48	28.7	9	7.5
Medium (8,001 to 15,000 students)	446	33.1	52	31.1	23	19.2
Large (over 15,000 students)	606	44.9	67	40.1	88	73.3
Type of Board						
Public	1,026	76.1	123	73.7	112	93.3
Separate	323	23.9	44	26.3	8	6.7
	n = 1,349		n = 167		n = 120	

*In this and all future tables, includes some district boards

All elementary supervisory officers in each of the boards that had expressed a willingness to participate in the study were invited to complete the questionnaire. Nine of these boards were classified as large (over 15,000 elementary students) and would of course employ more supervisory officers that small or medium-size boards. Seven of the nine large boards were also entirely urban boards, while the remaining two large boards were county boards that included a large city. Two additional entirely urban boards were of medium size (8,001 to 15,000 students).* There were no large boards that were rural. Furthermore, all the large and medium-size boards were in the south and only one of the large and one of the medium-size boards were separate.

Description of Sample by School Characteristics

The distribution of teachers and principals in the sample by the size and type of school in which each was employed at the time of data collection is shown in Table 5.

Thirteen percent of the teachers in the sample were situated in schools with fewer than 151 pupils, while teachers in schools with over 300 accounted for almost two-thirds of the sample. The distribution of number of teaching staff, another measure of size, parallels the distribution for enrolment range.

About one-quarter of the principals were located in schools with fewer than 151 students. Schools with over 500 students were represented by about one-fifth of the principals in the sample. The remaining 56% were almost evenly divided between schools of 151-300 students and 301-500 students.

One effect of deliberately over-representing teachers from small schools (under 151 students) in the teacher sample is evident in the distribution of principals from various sizes of school. Since it was necessary to increase the number of small schools in the sample to ensure sufficient teacher representation, and the questionnaire was administered to principals at each of the selected schools, the proportion of principals from small schools is higher than one would expect (24.7%). This percentage is considerably higher than the proportion of teachers in the sample from this same size range (13%). The percentage of teachers

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* Appendix Table A2, on page 92, shows the relationship between the size of board and the degree of urbanization for the boards in the study sample.

TABLE 5 -- NUMBER AND PERCENT OF TEACHERS AND PRINCIPALS IN STUDY SAMPLE IN VARIOUS SIZES AND TYPES OF SCHOOL

School Characteristic	Teachers		Principals	
	No.	%	No.	%
Enrolment Range				
up to 100 students	47	3.5	17	10.2
101 - 150 students	128	9.5	24	14.5
151 - 300 students	331	24.5	48	28.9
301 - 500 students	421	31.2	45	27.1
over 500 students	422	31.3	32	19.3
	n = 1,349		n = 166	
Number of Teaching Staff (includes Principals)				
1 - 4	30	2.2	12	7.2
5 - 7	151	11.2	32	19.3
8 - 11	220	16.3	31	18.7
12 - 18	357	26.5	43	25.9
19+	591	43.8	48	28.9
	n = 1,349		n = 166	
Type of School				
K - 6	582	43.2	68	41.2
K - 8	511	38.0	64	38.8
7 - 8	186	13.8	20	12.1
Other	67	5.0	13	7.9
	n = 1,346		n = 165	

and principals in the mid-ranges are similar while the proportions from very large schools differ in the opposite direction (principals 19.3% and teachers 31.3%).

The representation in the sample from K-6 schools and K-8 schools was almost equal: teachers from K-6 schools accounted for just over two-fifths, while those from K-8 schools accounted for just under that amount. Almost 14% were situated in intermediate (7-8) schools. The distribution of principals according to type of school closely matches that of the teachers.

Description of Sample by Individual Characteristics

The distribution of teachers, principals, and supervisory officers according to qualifications and years of experience is shown in Table 6.

Just over one-third of the teachers in the sample held at least a B.A. degree, compared with almost 90% of the principals. Fourteen percent of the teachers had some formal education beyond a B.A. while 3% had obtained a Master's degree. Some post-graduate work was reported by 30% of the principals while an additional 37% had received at least a Master's degree. Over three-quarters of the supervisory officers surveyed held a graduate degree while an additional 15% had done some postgraduate work. Less than 7% had only a B.A.

When years of experience were grouped 1-4, 5-8, 9-12, and 13 or more years, almost four-fifths of the supervisory officers and one-half of the principals had nine or more years of administrative experience. Less than 6% of the supervisory officers had fewer than five years of experience.

One-quarter of the teachers surveyed reported one to four years of experience, while one-third had been teaching between five and eight years. Just over two-fifths had taught nine or more years.

Table 7 shows the number and percent of teachers holding various teaching certificates.

About the same number of teachers -- slightly less than one-fifth -- had a Standard I teaching certificate as had a Standard III teaching certificate. Standard II certificates were held by almost 30% of the teachers in the sample while just over 30% held a Standard IV certificate. About four percent held certificates other than Standards I to IV.

About 15% of the teachers reported that they held specialist certificates.

TABLE 6 -- NUMBER AND PERCENT OF TEACHERS, PRINCIPALS, AND SUPERVISORY OFFICERS IN STUDY SAMPLE WITH VARIOUS QUALIFICATIONS AND YEARS OF TEACHING AND ADMINISTRATIVE EXPERIENCE

Individual Characteristic	Teachers		Principals		Supervisory Officers		
	No.	%	No.	%		No.	%
Academic Qualifications							
Less than B.A.	866	64.4	17	10.3			
B.A.	288	21.4	38	22.9	B.A./equivalent	8	6.7
B.A./less than M.A.	154	11.4	50	30.1	B.A./less than M.A.	18	15.0
M.A., M.Ed. or higher	37	2.8	61	36.7	M.A., M.Ed. or higher	87	72.5
	n = 1,345		n = 166		Doctoral work begun	7	5.8
						n = 120	
No. of Years Experience*							
1 - 4	330	24.7	22	13.4		7	5.8
5 - 8	326	32.3	60	36.6		18	15.0
9 - 12	357	18.7	34	20.7		24	20.0
13+	324	24.3	48	29.3		71	59.2
	n = 1,337		n = 164			n = 120	

*Years of experience for principals and supervisory officers do not include teaching experience.

TABLE 7 -- NUMBER AND PERCENT OF TEACHERS HOLDING VARIOUS TEACHING CERTIFICATES

Type of Certificate	No.	%
Teaching Certificate		
Standard I	254	18.9
Standard II	387	28.7
Standard III	238	17.7
Standard IV	415	30.8
Other	53	3.9
	n = 1,347	
Specialist Certificate		
Yes	202	15.5
No	1,104	84.5
	n = 1,306	

The distribution of teachers according to the nature of their teaching assignment is presented in Table 8.

Almost three-quarters of the teachers reported that they spent more than half their time teaching one particular class. Less than five percent of the sample were involved in non-teaching duties such as library or guidance work. The remaining teachers -- just over one-fifth -- taught particular subjects. This group includes itinerant and specialist teachers.

About 45% of the teachers taught a single grade while one-third taught mixed-grade classes. Between one-fifth and one-quarter taught on rotary timetables.

Some 10 percent of the teachers taught Kindergarten, one-third taught primary grades, another one-third taught junior grades, while the remaining one-quarter taught at the intermediate level.

TABLE 8 -- NUMBER AND PERCENT OF TEACHERS WITH VARIOUS TEACHING ASSIGNMENTS

Teacher Characteristic	No.	%
Type of Assignment		
Teaches mainly one class	987	73.2
Teaches mainly subject(s)	307	22.7
Non-teaching duties	55	4.1
	n = 1,349	
Combination of Grades Taught		
Single grade	575	44.3
Mixed grades	417	32.2
Rotary	305	23.5
	n = 1,297	
Level of Grades Taught		
JK/K	159	9.8
1 - 3	544	33.6
4 - 6	544	33.6
7 or higher	372	23.0
	n = 1,619*	

*Some teachers appear in more than one category.

Table 9 shows the proportion of principals who taught on a regular basis.

TABLE 9 -- NUMBER AND PERCENT OF PRINCIPALS WITH TEACHING ASSIGNMENTS

Teaching Assignment	No.	%
Teaching on a regular basis	104	63.0
No teaching duties	61	37.0
	n = 165	

Almost two-thirds of the principals surveyed reported that they taught on a regular basis.

In order to determine in what types and sizes of school teaching and administrative experience had been gained, teachers were asked to describe their teaching experience according to type and size of school. Principals and supervisory officers were asked to describe their experience as a principal and/or vice-principal in the same terms. This information is presented in Tables 10, 11, and 12.

Many teachers had experience in a variety of sizes and types of schools. The most common experiences were in K-6 and K-8 schools with eight or more classrooms. However at least 10 percent had gained some of their teaching experience in schools with four or fewer classrooms. Experience in small intermediate schools was rare but at least 7 percent indicated experience in such schools with fewer than 12 classrooms.

As in the case of teachers in the sample, the most common experiences reported were in K-6 schools of 8-11 classrooms and K-8 schools of 12-18 classrooms. About one-quarter of the principals indicated experience in each of these type/size categories.

Ten percent of the principals reported experience in K-6 schools with fewer than five classrooms and 15% of the sample indicated experience in K-8 schools of the same size range.

Approximately one-fifth of the principals claimed experience in K-8 schools with enrolments of over 500 students and slightly more than 15% reported experience in K-6 schools in that size range.

TABLE 10 -- NUMBER AND PERCENT OF RESPONDING TEACHERS WITH EXPERIENCE IN VARIOUS TYPES AND SIZES OF SCHOOLS

Type of School in which Teachers had Experience	Size of School (No. of Classrooms) in which Teachers had Experience									
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)	
	No.	%	No.	%	No.	%	No.	%	No.	%
K - 6	119	8.8	168	12.5	309	22.9	359	26.6	255	18.9
K - 8	161	11.9	152	11.3	299	22.2	351	26.0	328	24.3
7 - 8	9	0.7	30	2.2	98	7.3	125	9.3	109	8.1
Other	34	2.5	24	1.8	31	2.3	36	2.7	32	2.4
	n = 1,349									

Note: Each type and size of experience is included in this table. Thus 3,029 different experiences are reported, or an average of 2.4 experiences for each teacher. The percentages, however, that appear in the table are proportions of the number of teachers (1,349) and not of the number of total experiences, e.g. 8.8% of the 1,349 responding teachers reported experience in a K-6 school of 1-4 classrooms.

TABLE 11 -- NUMBER AND PERCENT OF RESPONDING PRINCIPALS WITH EXPERIENCE AS PRINCIPAL/VICE-PRINCIPAL IN VARIOUS TYPES AND SIZES OF SCHOOLS

Type of School in which Principals had Experience	Size of School (No. of Classrooms) in which Principals had Experience									
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)	
	No.	%	No.	%	No.	%	No.	%	No.	%
K - 6	17	10.2	29	17.4	44	26.3	43	25.7	26	15.6
K - 8	25	15.0	28	16.8	41	24.6	48	28.7	34	20.4
7 - 8	--	--	3	1.8	12	7.2	14	8.4	16	9.6
Other	8	4.8	6	3.6	4	2.4	2	1.2	--	--

n = 167

Note: Each type and size of experience is included in this table, thus 400 different experiences are reported, or an average of 2.4 experiences for each principal. The percentages, however, that appear in the table are proportions of the number of principals (167) and not of the number of total experiences (400) e.g. 10.2% of the 167 responding principals had experience in a K-6 school of 1-4 classrooms.

TABLE 12 -- NUMBER AND PERCENT OF RESPONDING SUPERVISORY OFFICERS WITH EXPERIENCE AS PRINCIPAL AND/OR VICE-PRINCIPAL IN VARIOUS TYPES AND SIZES OF SCHOOLS

Type of School in which Administrative Experience Gained	Size of School (No. of Classrooms) in which Administrative Experience Gained									
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)	
	No.	%	No.	%	No.	%	No.	%	No.	%
K - 6	2	1.7	4	3.3	11	9.2	23	19.2	24	20.0
K - 8	10	8.3	6	5.0	21	17.5	26	21.7	51	42.5
7 - 8	1	0.8	1	0.8	4	3.3	8	6.7	17	14.2
Other	2	1.7	--	--	2	1.7	4	3.3	30	25.0

n = 120

Note: Each type and size of experience is included in this table, thus 247 difference experiences are reported, or an average of 2.1 experiences for each supervisory officer. The percentages, however, that appear in the table are proportions of the number of supervisory officers (120) and not of the number of total experiences (247) e.g. 1.7% of the 120 responding supervisory officers had experience in a K-6 school of 1-4 classrooms.

No principal involved in the study indicated experience in intermediate schools (7-8) with fewer than five classrooms. Almost 10% had experience in intermediate schools with over 500 students.

The most common experience reported by supervisory officers was in large schools. Over 42% of the supervisory officers reported experience in K-8 schools with over 19 classrooms, one-fifth in K-6 schools, and one-quarter in other schools of that size. (The latter probably represents supervisory officers whose experience was entirely or mostly in secondary schools.) Over one-fifth reported K-8 experience in 12-18-room schools, and just under one-fifth in K-6 schools of the same size. Relatively few of the supervisory officers indicated experience in small schools.*

RESULTS

Teachers, principals, and supervisory officers were asked what size of school they regarded as minimum for providing quality education. No definition of quality education was provided but three types of school were specified: K-6, K-8, and 7-8. Respondents were asked to specify in terms of the minimum number of operating classrooms. An average class size of 30 students was given. Figures 1, 2, and 3 show the responses of each of the three groups in the sample for the three types of school.**

K-6 Minimum Size

It is apparent from the response to this question that the majority of principals, supervisory officers, and teachers viewed one classroom per age level as a minimum requirement for quality education. When specifying

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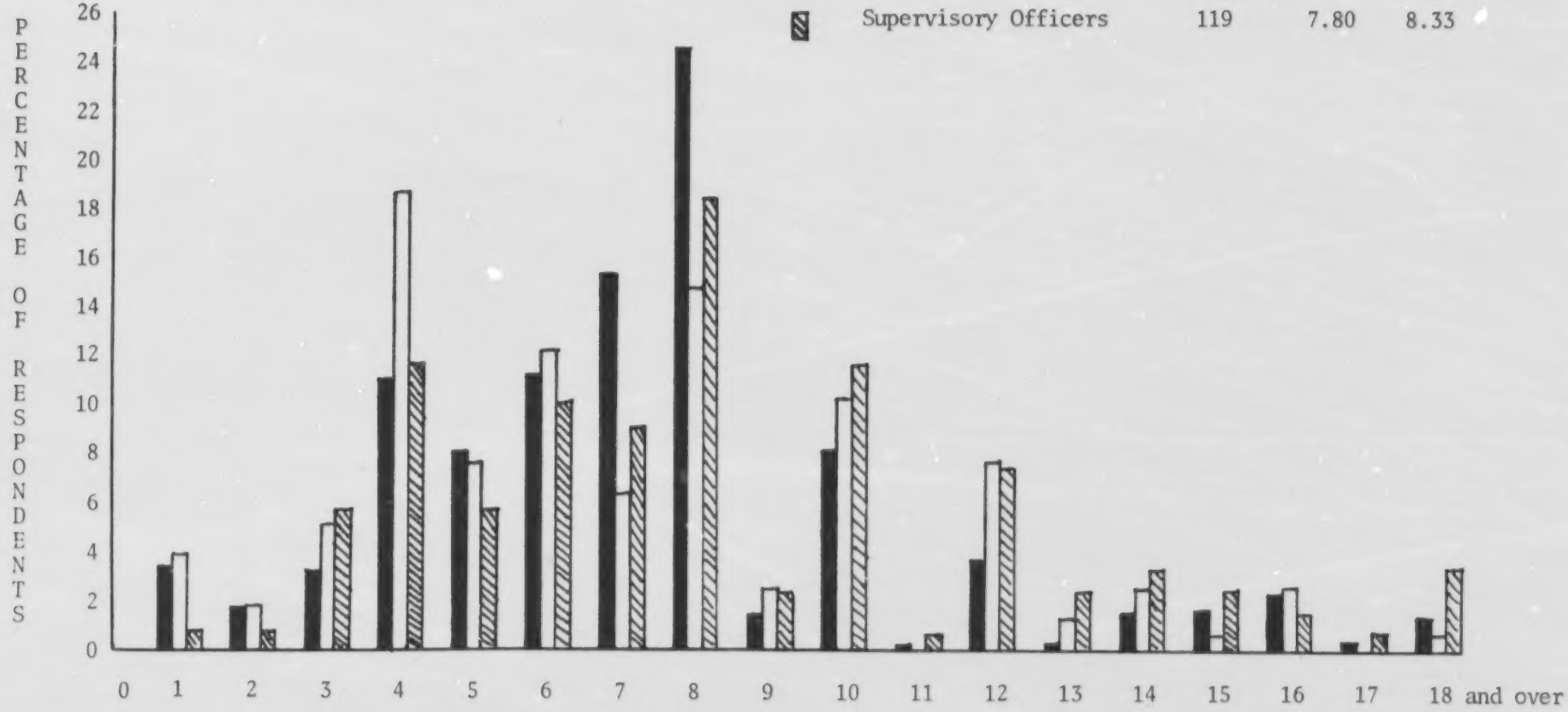
*Note: Tables were prepared that examined the relationship among the various board, school, and individual characteristics for the three groups or respondents. Tables A42-A45 on pages 111-112 indicate the level of significant obtained by applying the chi-square test to each of these relationships.

**Tables A3, A4, and A5, on pages 93-95, show the percentage of each of the three groups of respondents selecting each size. Table A6 on page 97 gives the results for teachers when the sample was adjusted according to the procedures described on pages 29 and 31.

FIGURE 1 -- PERCENTAGE OF RESPONDENTS SELECTING VARIOUS MINIMUM SIZES FOR K-6 SCHOOLS

	n	Median	Mean
Teachers	1,262	7.20	7.35
Principals	154	6.50	7.18
Supervisory Officers	119	7.80	8.33



a minimum size for a K-6 school almost three-quarters of the teachers and supervisory officers and over three-fifths of the principals indicated that six or more classrooms were necessary. However, despite this commitment to at least one class per grade level, there was a wide divergence of opinion about minimum size.

There was more consensus among teachers as to an appropriate minimum size than among the other two groups. About one-fifth of the teachers in the sample selected four or fewer rooms, with an equal proportion selecting nine or more. The remaining three-fifths chose between five and eight rooms. Eight rooms was the most popular choice, selected by one-quarter of the teachers, while seven rooms was chosen by the second largest group (15.5%).

Teachers saw little need for large schools in order to provide quality education for K-6 students. Just over one-tenth specified 12 or more rooms as a necessary minimum.

Less consensus about an appropriate minimum size was evident in the principals' responses as compared to those of the teachers. A higher proportion of the principals (almost 30%) than teachers selected one to four rooms as an adequate minimum size, while about the same percentage chose nine or more. Only two-fifths selected from five to eight rooms, the most popular range with the teachers.

Furthermore, no one size gained acceptance with a significant number of principals. The most frequently specified size was four rooms, which was suggested by almost one-fifth of the principals. Just under 15% selected eight rooms and just over 12%, six rooms. The majority (60.3%) chose from four to eight rooms.

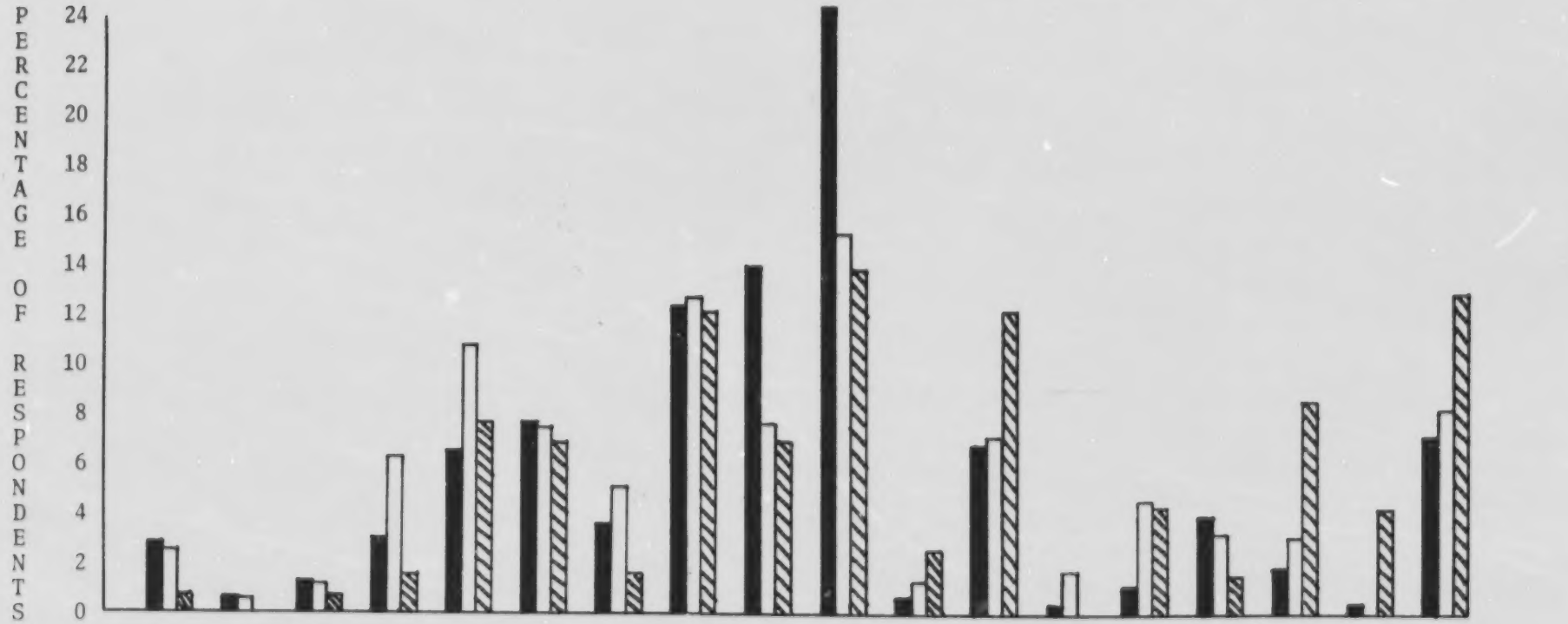
A slightly higher proportion of principals than teachers saw large schools as necessary for quality education (15.7% compared to 11%).

There was a definite tendency for supervisory officers to propose higher minimum sizes than principals and teachers and there was less support for small schools.

Fewer than one-fifth of the supervisory officers surveyed considered one to four rooms an acceptable size for this type of school while 37% placed the minimum at nine or more classrooms. About 44% fell into the mid-range of five to eight rooms. Over one-half the supervisory officers placed their minimum size in the six-to-ten-classroom range.

FIGURE 2 -- PERCENTAGE OF RESPONDENTS SELECTING VARIOUS MINIMUM SIZES FOR K-8 SCHOOLS

	n	Median	Mean
Teachers	1,223	9.32	9.61
Principals	156	8.83	9.61
Supervisory Officers	115	10.28	11.48



Commitment to the principle of one class per age level as a basic minimum is evident in the responses regarding an appropriate minimum size for a K-8 school. Almost three-quarters of teachers, two-thirds of principals, and four-fifths of supervisory officers specified eight or more classrooms as a minimum size for this type of school.

The second most obvious feature of the response for K-8 schools was the tendency for many of the respondents in each of the three groups simply to add two classrooms to their specified K-6 minimum size to obtain a K-8 minimum size. This become even more apparent in the cross-tabulations of specified minimum sizes for these two types of school. (See Table 11, page 41, and Tables A7 and A8, page 97).

Half the teachers specified a minimum size within the eight-to-ten-classroom range, with one-quarter below and one-quarter above. The most frequently selected sizes were ten classrooms (24.4%) and nine classrooms (14.1%).

Few of the teachers in the study sample viewed very large schools as necessary for quality education in a K-8 school. Just over 15% considered more than 12 classrooms minimum, while about 7% proposed minimums of 18 or more rooms. In view of the fact that only 1.3% of teachers selected 18 or more rooms for a K-6 minimum size, it seems likely that the higher proportion proposing minimums within that range for a K-8 school was a reflection of the opinion that a separate 7-8 program on at least a partially rotary timetable is a requirement for quality education for senior elementary students.

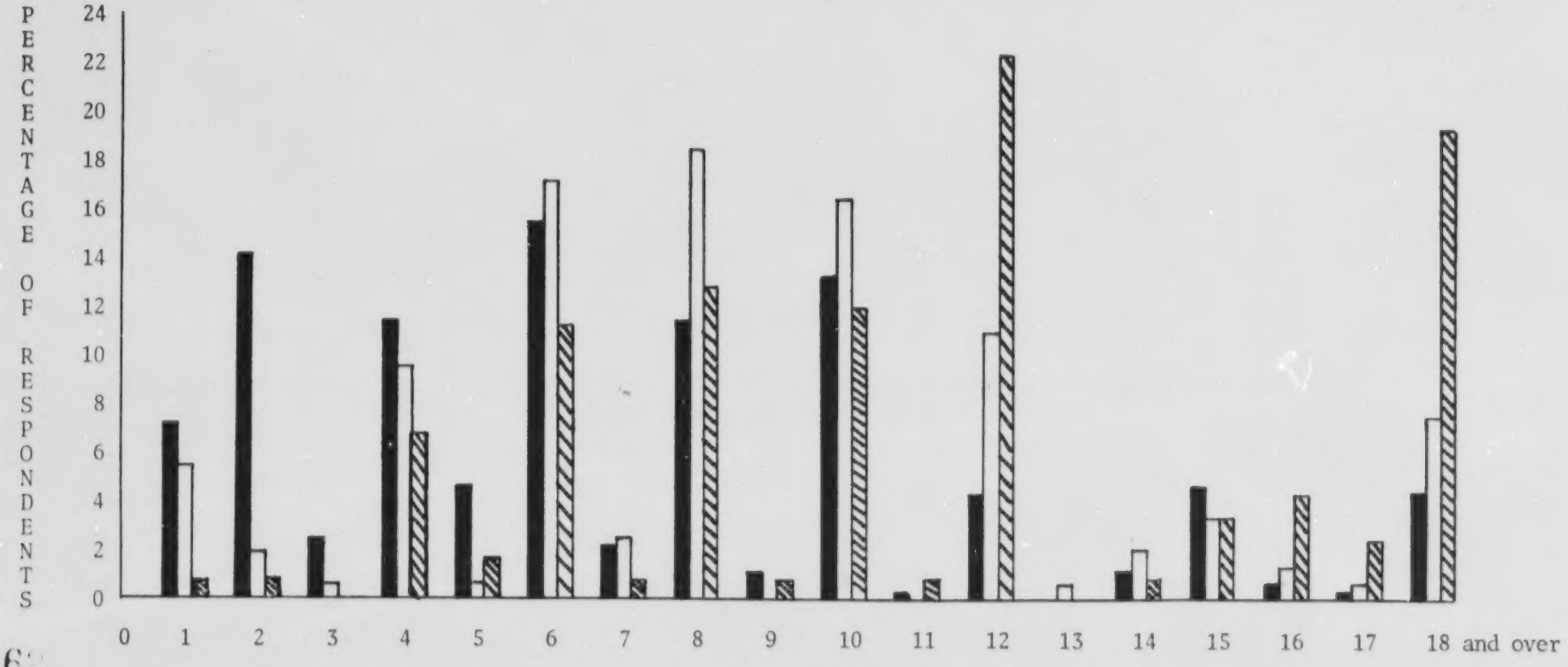
Very small schools (one to four rooms) were seen as adequate by less than one-tenth of the teachers.

Although there was considerable variation in the response of the principals, the minimum size suggested for a K-8 school by about three-fifths of them fell between five and ten classrooms. Ten classrooms was the size most frequently specified (15.7%) and eight rooms was the next most frequently mentioned (12.8%).

There was less support for minimums below the mid-range of six to ten rooms than there was for minimums above that range. About one-fifth placed their minimums in the one-to-five-classrooms range, while about 30% considered sizes of more than ten rooms necessary.

FIGURE 3 -- PERCENTAGE OF RESPONDENTS SELECTING VARIOUS MINIMUM SIZES FOR 7-8 SCHOOLS

	n	Median	Mean
Teachers	1,121	6.12	7.10
Principals	146	8.13	9.04
Supervisory Officers	116	11.54	11.53



Although only .7% of the principals chose 18 or more rooms for a K-6 school, 8.3% did so for a K-8 school.

In selecting a minimum size for a K-8 school, supervisory officers went beyond the teacher and principal practice of adding two rooms to the K-6 size. For this type of school, supervisory officers saw fairly large sizes as necessary for quality education. Over 45% specified 11 or more rooms as a minimum size, and over one-third specified between seven and ten rooms. Only 3.5% considered one to four rooms adequate. Almost equal numbers (about 13%) chose ten rooms (the most popular teacher and principal size) and 18 or more rooms. The rather substantial number selecting large sizes as minimum may indicate a concern for 7-8 sections within K-8 schools.

7-8 Minimum Size

There was obviously little consensus among teachers about an appropriate minimum size for a 7-8 school. Just over two-fifths of those surveyed specified minimum sizes below six rooms, a size which generally is regarded as an operating minimum for a rotary, independent, senior public school. A slightly higher proportion chose between six and ten rooms, while 16% selected sizes above 11 rooms.

This response, when considered with comments offered by teachers while completing the questionnaire, indicates that many teachers believe that in order to provide quality education for grade 7 and 8 students, separate intermediate schools are not necessary. This is further supported by the number of teachers who simply added two classrooms to the K-6 minimum size to obtain the K-8 minimum size. (See Appendix Table A7, page 97). Clearly, even a 7-8 senior group run on a rotary timetable within a K-8 school was not seen as essential. Some teachers volunteered, both verbally and in writing, their disapproval of separate, intermediate schools. Despite the wide range of opinion, three-quarters of the teachers selected schools with an even number of classes, perhaps indicating a preference for single-grade classes, a preference that appears as well in the consistency of responses between K-6 and K-8.

The minimum sizes specified for a 7-8 school indicate far more support for this type of school among principals than among teachers. Less than one-fifth of the principals considered fewer than six rooms an acceptable minimum. About 55% selected from six to ten rooms, while over one-quarter specified 11 or more rooms as minimum.

It is obvious from the minimum sizes selected for 7-8 schools that supervisory officers support their existence. Over one-half chose a minimum size of 11 or more rooms; less than 11% chose fewer than six rooms.

The tendency to select high minimum sizes, however, may be a reflection of the bias in the sample of supervisory officers. As shown later, respondents from highly urbanized and large boards tended to select larger minimum sizes than did those from other types of board. Consequently the high proportion of supervisory officers from urban and large boards might influence the results.

Certainly self-contained intermediate schools are more characteristic of large and urban boards than of other types, and the frequency of high minimum sizes necessary to sustain them may reflect the location and size of the board with which the supervisory officer is associated.

Minimum Size Cross-Tabulations

To determine the consistency and pattern of response, the minimum size responses for the three types of school were cross-tabulated with one another. The chi-square test of significance was applied and levels above .01 were not considered significant. For these tables, the minimum size responses were grouped as follows: 1-2, 3-4, 5-6, 7-8, 9-10, 11 or more rooms.

A significant relationship was discovered in all the tables resulting from this procedure. The pattern of response for each of the three groups of respondents for K-6 and K-8 schools was similar. Consequently only the table showing the principals' responses is presented here.*

It is apparent from the pattern in Table 13 that many principals added two classrooms to their specified K-6 minimum size in order to obtain a minimum size for K-8 schools. For example, over one-half of those selecting 3-4 classrooms for K-6 schools chose 5-6 rooms for K-8. Similarly more than three-fifths of those selecting 5-6 rooms for the former, chose 7-8 rooms for the latter.

A high proportion of those principals selecting very small or large sizes as minimum for K-6 schools were consistent in their responses. Of

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*See Appendix Tables A7 and A8 on page 97 for teachers' and supervisory officers' responses.

TABLE 13 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING PRINCIPALS FOR K-6 AND K-8 SCHOOLS

Minimum Size of K-6 School (Number of Classrooms)	Minimum Size of K-8 School (Number of Classrooms)														TOTALS	Proportion of Sample	
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+						
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				No.	%
1 - 2	5	55.6	4	44.4	--	--	--	--	--	--	--	--			100.0%	9	6.0
3 - 4	--	--	8	21.6	20	54.1	5	13.5	1	2.7	3	8.1			100.0	37	24.7
5 - 6	--	--	--	--	7	24.1	18	62.1	4	13.8	--	--			100.0	29	19.3
7 - 8	--	--	--	--	--	--	4	12.5	25	78.1	3	9.4			100.0	32	21.3
9 - 10	--	--	--	--	--	--	--	--	4	21.1	15	78.9			100.0	19	12.7
11+	--	--	--	--	--	--	--	--	--	--	24	100.0			100.0	24	16.0
Proportion of Sample	5	3.3	12	8.0	27	18.0	27	18.0	34	22.7	45	30.0				150	100.0

n = 150 Level of Significance = 0.0 χ^2 = 328.88086 d.f. = 25

those who selected 1-2 rooms for a K-6 school, 55.6% specified the same size for a K-8 school and the remaining 44.4% selected 3-4 rooms. All of the principals who selected 11 or more rooms as minimum for K-6 did so for K-8.

The pattern of response of teachers and supervisory officers for K-6 and K-8 schools was similar to that of the principals (Tables A7 and A8, on page 97).

When the responses for K-6 and K-8 schools were examined in relation to those for 7-8 schools, the following tendencies were discovered.

1. Teachers who chose low or high minimum sizes for K-6 and K-8 schools give minimum sizes for 7-8 schools in the same range (Tables A9 and A10, pages 100 and 101). This consistency was also characteristic of the principals' and supervisory officers' responses (Tables A11, A12, A13, and A14, pages 102-105).
2. Those teachers selecting between three and ten rooms for a K-6 school displayed an equal tendency to specify lower or higher sizes for a 7-8 school. For example, while one-quarter of those selecting 5-6 rooms for a K-6 school chose the same size for a 7-8 school, about 37% selected below that size and 37% above. Similar responses appear with other sizes (Table A9, page 97).
3. However, teachers were likely to specify lower minimum sizes for 7-8 schools than for K-8 schools. For example, less than one-fifth of those who indicated that 3-4 rooms was an acceptable size for a K-8 school chose a higher minimum for a 7-8 school, and only 16% of teachers who gave a K-8 minimum size of 5-6 rooms considered more than six rooms necessary for a 7-8 school (Table A10, page 98).
4. Principals were likely to propose the same or a higher number of classrooms for a 7-8 school than they did for a K-6 school, rather than a lower number. For example, 85% of those selecting 3-4 rooms for a K-6 school chose that number or higher for a 7-8 school; 85% of those choosing 5-6 rooms and three-quarters of those selecting 7-8 rooms did the same (Table A11, page 98).
5. A somewhat similar pattern may be observed from the table showing the relationship between minimum size of K-8 and 7-8 schools. There was a slightly stronger tendency for principals to choose a smaller size as minimum for a 7-8 school than for a K-8 school (Table A12, page 98).

6. Supervisory officers displayed a clear tendency to select higher minimum sizes for 7-8 schools than for K-6 schools (Table A13, page 99). As a group they are far more likely to have an awareness of the size necessary to maintain an intermediate school on a rotary timetable than are the teachers, many of whom have had no experience with or knowledge of this type of school, and the principals, some of whom were in the same position. Except for those selecting 1-2 rooms (1.7% of the sample), and those selecting 11 or more rooms, about 70% of each of the other groups chose a 7-8 minimum size higher than their specified K-6 one.
7. Supervisory officers were likely to propose minimum sizes in the same range for 7-8 schools as they had for K-8 schools (Table A14, on page 99).

Relationships Between Minimum-Size Responses and Various Sample Characteristics

To discover whether a relationship existed between the minimum sizes selected by the teachers, principals, and supervisory officers in the study and various sample characteristics, tables were prepared that related the specified minimum sizes with board, school, and individual characteristics. The significant findings are presented in this section.

Board Characteristics and Respondents' Opinions

The four board characteristics noted in the sample description (degree of urbanization, geographical location, size by elementary enrolment, and type of board) were considered in relationship to the minimum size selected.

Minimum size responses for K-6 and 7-8 schools were grouped 1-4, 5-8, and 9 or more rooms, while for K-8 schools they were grouped 1-6, 7-10, and 11 or more rooms. This K-8 grouping results in a distribution similar to that for K-6 because of the respondents' practice of adding two rooms to the specified K-6 minimum size to obtain a K-8 minimum size.

Degree of Urbanization

The minimum size selected by teachers and principals for each of the three types of school was found to be related to the degree of urbanization of the employing board. However, in the case of the supervisory officers,

only the sizes selected for 7-8 schools were found to be related to this board characteristic.

Table 14, illustrating the relationship between K-6 minimum size responses and degree of urbanization of the employing board, is presented next. Tables describing the relationship for K-8 and 7-8 schools are included in the Appendix (Tables A15, A16, A17, A18, and A19, pages 99-101).

The most popular minimum-size range selected for K-6 schools by teachers from any one of the four types of boards as characterized by degree of urbanization was 5-8 rooms. Over one-half of each of the four groups selected a size in that range. The response from those teachers employed by county boards which include a large city and those which include a small city were almost identical, with over three-fifths selecting 5-8 rooms, about 17% selecting 9 or more, and the remainder, 1-4 rooms.

The greatest contrast appears between the entirely urban boards and the exclusively rural boards. Although the percentages selecting 5-8 rooms are similar, 28% of the urban teachers chose minimum sizes of 9 or more rooms compared to about 11% of the rural-board teachers. In addition, although only 15% of the urban-board teachers considered 1-4 rooms an adequate size, over 37% of rural-board teachers were of that opinion.

Appendix Table A15 (page 99) shows a similar pattern in the teachers' responses for K-8 schools.

As was the case with the teachers, low minimum sizes for K-6 schools gained the greater support from principals from exclusively rural boards: just over one-half of this group selected 1-4 rooms as minimum. But this range found favour with only one-fifth of principals from entirely urban boards.

Principals from entirely urban boards specified higher minimum sizes more frequently than did those from the other three types. Over two-fifths indicated 9 or more rooms as minimum, while one-quarter to one-fifth of the other groups chose minimums within this range. (Table 15.)

About the same proportion of principals from county boards that included a large city selected the highest range as minimum as did principals from county boards including a small city (about one-fifth). But a higher proportion of the latter chose low minimum sizes: one-third selected 1-4 rooms for a K-6 school compared with just over one-fifth of principals from county boards with a large city. The majority of this group chose the mid-range as minimum: almost three-fifths selected 5-8 rooms for a K-6 school. (Table A16 on page 100 shows the K-8 relationship which parallels that of K-6.)

TABLE 14 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION OF BOARDS OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Board Characteristic	Minimum Size of K-6 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Degree of Urbanization									
Large City Boards	76	15.0	289	57.0	142	28.0	100.0%	507	40.2
County Boards which include a Large City	46	18.5	160	64.3	43	17.3	100.0	249	19.7
County Boards which include a Small City	78	20.8	233	62.1	64	17.1	100.0	375	29.7
County Boards without a City	49	37.4	68	51.9	14	10.7	100.0	131	10.4
Proportion of Sample	249	19.7	750	59.4	263	20.9		1,262	100.0

n = 1,262 Level of Significance = 0.0000

TABLE 15 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION OF BOARDS OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Board Characteristic	Minimum Size of K-6 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Degree of Urbanization									
Large City Boards	10	20.8	17	35.4	21	43.7	100.0%	48	31.2
County Boards which include a Large City	7	21.9	19	59.4	6	18.8	100.0	32	20.8
County Boards which include a Small City	17	33.3	23	45.1	11	21.6	100.0	51	33.1
County Boards without a City	12	52.1	5	21.7	6	26.1	100.0	23	14.9
Proportion of Sample	46	29.8	64	41.5	44	28.6		154	100.0

n = 154 Level of Significance = 0.0136

Teachers and principals employed by rural boards also differed from those from urban boards in their minimum-size recommendations for 7-8 schools (Tables A17 and A18, page 100).

Support for self-contained, autonomous intermediate schools does not appear to be widespread among teachers in the employ of rural boards: over three-fifths specified 1-4 rooms as an acceptable minimum size for this type of school and only 12% considered 9 or more classrooms a necessary minimum. This contrasts with the response of teachers from entirely urban areas, 38% of whom selected 9 or more classrooms as the minimum size required for quality education in this type of school. Similarly, three-fifths of principals from entirely urban boards specified minimum sizes of 9 or more rooms compared with about 14% of those from entirely rural areas. The lowest range, 1-4 rooms, was the minimum-size choice of almost 30% of rural-board principals, but only 6.3% of urban-board principals indicated that this was a satisfactory minimum size.

The most support for high minimum sizes for 7-8 schools comes from supervisory officers in highly urbanized boards (Appendix Table A19, page 101), three-quarters of whom selected 9 or more rooms. These supervisory officers also comprise 69% of the sample. This response differs considerably from that of supervisory officers from entirely rural boards: only one-fifth agreed with that choice. The most popular minimum size for these supervisory officers was 5-8 rooms, with four-fifths specifying that range.

Contrary to the responses of teachers and principals, low minimum sizes were not chosen by a substantial proportion of the supervisory officers from any type of board. The largest percentage selecting this range appeared among supervisory officers from county boards including a small city (15.4%). None of those from entirely rural boards selected this range; however, only five supervisory officers from rural boards were included in the sample.

Board Size

The size of board was found to be related to the minimum-size responses of the teachers for each of the three types of school, and of the principals for K-8 and 7-8 schools. No relationship between size of board and supervisory officers' responses was apparent.

Table 16 shows the relationship between the size of the employing board and teachers' opinions about minimum size for a K-6 school. In

TABLE 16 -- RELATIONSHIP BETWEEN SIZE OF BOARD OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Board Characteristic	Minimum Size of K-6 School (Number of Classrooms)								Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS			
	No.	%	No.	%	No.	%			No.	%
Size of Board by Elementary Enrolment										
Small (up to 8,000 students)	88	32.2	142	52.0	43	15.8	100.0%		273	21.6
Medium (8,001 to 15,000 students)	66	18.1	247	67.9	51	14.0	100.0		364	28.8
Large (15,001 and over students)	95	15.2	361	57.8	169	27.0	100.0		625	49.5
Proportion of Sample	249	19.7	750	59.4	263	20.9			1,262	100.0
	n = 1,262		Level of Significance = 0.0000							

Appendix Tables A20 and A22 on pages 101 and 102 the relationships between K-8 and 7-8 minimum-size responses and board size are described.

There was a greater likelihood for teachers from small boards to consider small schools satisfactory. About one-third of these teachers indicated K-6 minimum sizes in the range of 1-4 classrooms. But among those who worked with large boards only 15% reported that this was an acceptable minimum size. These proportions were reversed for minimum sizes of 9 or more classrooms. Teachers employed by large boards showed a greater preference for higher minimum sizes than teachers from small or medium boards. The response for K-8 schools paralleled that for K-6 schools (Table A20, page 101).

The tendency for teachers from small boards to consider small schools adequate for quality education is apparent in the minimum sizes proposed for 7-8 schools -- over one-half specified 1-4 rooms. Less than 30% of teachers from large boards shared this view (Table A22, Appendix I, page 102).

Principals from all three board sizes were more likely to suggest higher minimum sizes for intermediate schools than were teachers (Appendix Table A23, page 102). Over half the principals from large boards and just under half from medium-size boards placed the minimum at 9 or more rooms. This size, however, was less popular with principals from small boards -- only about one-fifth chose that range. A higher proportion of these principals chose 1-4 rooms as minimum (34.3%) than did those from medium (18.8%) and large (6.7%) boards.

Geographical Location

The geographical location (north/south) of the employing board was found to be related to the teachers' minimum-size responses for the three types of school. No similar relationship was apparent in the case of the principals or supervisory officers.

Appendix Table A24 on page 103 indicates that teachers employed by northern boards tended to favour smaller sizes as minimum for all three types of school than did those from southern boards. The mid-range was more frequently selected by southern teachers, while support for the highest ranges was almost equal.

Type of Board

While the response from teachers and principals in public and separate schools was similar, the opinions of supervisory officers from separate boards regarding an appropriate minimum size for 7-8 schools were markedly

different from those of supervisory officers from public-school boards (Appendix Table A25, page 104). While one-quarter of the separate-school supervisory officers indicated support for a minimum size of 1-4 rooms for a 7-8 school, only 7.5% of the public-school supervisory officers were of the same opinion. The minimum size range most frequently selected by separate-school supervisory officers was 5-8 rooms (62.5%), and by public-school supervisory officers, 9 or more rooms (68.5%). However, this difference might be explained by the high proportion of public-school supervisory officers in the sample located in largely urban areas. Further, separate-school supervisory officers accounted for less than 7% of the sample, and most of these were associated with small boards in areas that were not highly urbanized.

School Characteristics and Respondents' Opinions

Two characteristics of the schools in which the teachers and principals were located at the time of questionnaire administration were considered -- size (by enrolment) and type. For these tables, suggested minimum sizes were grouped to match the original grouping for enrolment range, i.e. up to 100 students (1-4 rooms), 101-150 students (5-7 rooms), 151-300 students (8-11 rooms), 301-500 students (12-18 rooms), and over 500 students (19 or more rooms). Three types of school were included: K-6, K-8, and 7-8.

The size of school in which the respondents were located was found to be related to the minimum-size responses. The type of school, however, was not a significant factor in the case of the principals' minimum-size recommendations, although it was in the case of the teachers. Tables relating the K-6 minimum-size opinions and the size of school in which the teachers and principals were employed appear below. Those describing the K-8 and 7-8 relationships are in the Appendix, Tables A26-A29.

Size of School

Most teachers and principals considered the size of school in which they were employed as adequate or more than adequate for quality education in a K-6 school. When proposing a minimum size for this type, most teachers specified either the size in which they were located or a smaller size. Few selected a higher minimum size and very large schools were seen as necessary by only a very small proportion of teachers in any size of school.

TABLE 17 -- RELATIONSHIP BETWEEN SIZE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Size of School at which Teacher was Employed	Minimum Size of K-6 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		Over 19 classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	29	64.4	9	20.0	6	13.3	1	2.2	--	--	100.0%	45	3.6
5-7 classrooms (101 - 150 students)	35	29.9	64	54.7	18	15.4	--	--	--	--	100.0	117	9.3
8-11 classrooms (151 - 300 students)	77	24.1	133	41.6	100	31.3	9	2.8	1	0.3	100.0	320	25.4
12-18 classrooms (301 - 500 students)	63	15.8	106	26.5	161	40.3	66	16.5	4	1.0	100.0	400	31.8
Over 19 classrooms (over 500 students)	45	11.8	128	33.7	148	38.9	51	13.4	8	2.1	100.0	380	30.1
Proportion of Sample	249	19.7	440	34.9	433	34.3	127	10.1	13	1.0		1,262	100.0

n = 1,262 Level of Significance = 0.0

TABLE 18 -- RELATIONSHIP BETWEEN SIZE OF SCHOOL OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Size of School at which Principal was Employed	Minimum Size of K-6 School (Number of Classrooms)													
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		Over 19 classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	11	68.8	3	18.8	2	12.5	--	--	--	--	100.0%	16	10.4
5-7 classrooms (101 - 150 students)	10	43.5	9	39.1	4	17.4	--	--	--	--	100.0	23	14.9
8-11 classrooms (151 - 300 students)	16	35.6	16	35.6	10	22.2	3	6.7	--	--	100.0	45	29.2
12-18 classrooms (301 - 500 students)	6	15.0	8	20.0	14	35.0	12	30.0	--	--	100.0	40	26.0
Over 19 classrooms (over 500 students)	3	10.0	5	16.7	13	43.3	8	26.7	1	3.3	100.0	30	19.5
Proportion of Sample	46	29.9	41	26.6	43	27.9	23	14.9	1	.6		154	100.0

n = 154 Level of Significance = 0.0000

As the size of school in which the teachers were located increased, fewer selected that size as minimum. Almost two-thirds of teachers in schools of 1-4 rooms considered that size a satisfactory minimum and over one-half of teachers in 5-7 room schools selected minimums within the same range, with 30% choosing smaller schools. However, two-thirds of the teachers in 8-11-room schools considered schools smaller than that size satisfactory, and the great majority of teachers in schools of 12 or more rooms were not convinced that that large a school was necessary for quality education. Only about 16% of those in 12-18 room schools and the same percentage of those in schools of 19 or more rooms considered more than 11 rooms a necessary minimum.

However, few teachers in the larger schools were prepared to suggest 1-4 rooms as an acceptable size. The most popular choice of these teachers was 8-11 rooms with 5-7 rooms selected somewhat less frequently.

The principals' responses were similar, except that those principals in schools of up to 11 rooms were more likely to select lower minimum sizes than were teachers in the same size school and a higher proportion of those in schools of 12 or more rooms selected minimum sizes in the higher ranges than did teachers. Thirty percent of principals in schools of 12 or more rooms recommended minimum sizes of 12 or more classrooms compared with 17% of teachers in the same size schools.

Both principals and teachers were much less likely to consider a small school (1-4 rooms) adequate for a K-8 school than for a K-6 school and displayed a tendency regardless of the size of school in which they were located to select higher minimums for K-8 than for K-6 schools (Appendix Tables A26 and A27, pages 104 and 105). For example, while 65% of teachers in 8-11-room schools had considered 1-7-room K-6 schools adequate, only 30% suggested that range as acceptable for a K-8 school. This tendency was especially pronounced with teachers from very large schools. While 15% had specified 12 or more rooms for K-6 schools, one-third considered at least 12 rooms minimum for K-8 schools. Principals in large schools were even more likely than teachers to select fairly high minimum sizes. Over one-half of those in schools with more than 19 rooms selected minimums of 12 or more rooms and two-fifths of those in 12-18-room schools did the same.

Teachers in all sizes of school displayed a much greater tendency to consider 1-4 rooms a satisfactory minimum size for a 7-8 school than did principals (Appendix Tables A28 and A29, pages 105 and 106). Although

teachers in very large schools (over 19 rooms) were least likely to find small schools acceptable, more than one-quarter did so. Furthermore, for teachers in all sizes of school except the largest, 1-4 rooms was the most frequently selected minimum size. This response clearly indicates the rather widespread view among the sample teachers that 7-8 schools are not essential.

Very small 7-8 schools did not find favour with principals in schools of more than seven rooms, although it was the most popular choice of those in schools with seven or fewer rooms. No more than 16% in larger schools considered this size adequate, while between 35 and 40% of those in schools below eight rooms did so. The most frequently selected size of principals in schools above seven rooms was 8-11 rooms. The tendency of principals in large schools to prefer higher minimum sizes is shown by the two-fifths of those in schools with 12 or more rooms who chose minimums within that range. Less than one-fifth of these principals specified minimum sizes below eight rooms.

Type of School

In Table 19, the relationship between the type of school in which teachers were employed and their minimum size responses for K-6 schools is shown.

Teachers in each of the three types of school were consistent in their responses for K-6 and K-8 schools when responses for the latter were grouped to account for the addition of two rooms to the K-6 specified minimum size. (For K-8 results, see Table A30, page 106.)

Teachers employed in K-8 schools were least likely to select minimum sizes in the highest range, while those in K-6 schools were least likely to see very small schools as adequate. The majority of teachers in all types of school viewed the mid-range (5-8 rooms for K-6 and 7-10 rooms for K-8) as an acceptable minimum.

K-8 school teachers selected 9 or more rooms for an intermediate school less frequently (one-quarter) than did those in K-6 schools (one-third). Not surprisingly, minimum sizes of 9 or more rooms were most popular with teachers in intermediate schools, although even one-quarter of these considered 1-4 rooms satisfactory (Table A31, page 106).

Individual Characteristics and Respondents' Opinions

A number of individual characteristics were found to be unrelated to opinions about minimum school size. These included number of years of

TABLE 19 -- RELATIONSHIP BETWEEN TYPE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Type of School at which Teacher was Employed	Minimum Size of K-6 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
K - 6	91	16.1	325	57.3	151	26.6	100.0%	567	47.5
K - 8	102	22.4	294	64.8	58	12.8	100.0	454	38.1
7 - 8	42	24.4	88	51.2	42	24.5	100.0	172	14.4
Proportion of Sample	235	19.7	707	59.3	251	21.1		1,193	100.0

n = 1,193 Level of Significance = 0.0000

teaching and/or administrative experience, academic qualifications and the type of teaching certificate.

However, relationships were found between the minimum-size responses of principals and teachers and the range (in terms of school size) of their experience, the personally preferred size of school, and, in the case of teachers, the type of teaching assignment.

Range of Experience

For purposes of analysis, the experience of teachers and principals in various sizes of schools was grouped as follows:

1- 4 classrooms (up to 100 students)	--	small only
5-11 classrooms (101-300 students)	--	medium only
12+ classrooms (over 300 students)	--	large only
1-4 and 5-11 classrooms	--	small and medium
1-4 and 12 and over classrooms	--	small and large
5-11 and 12 and over classrooms	--	medium and large
1-4, 5-11, and 12 and over classrooms	--	small, medium, and large

Table 20 shows the relationship between the range of experience reported by the sample teachers and their opinions of a minimum satisfactory size for a K-6 school.

A strong relationship is evident between the minimum sizes specified for K-6 schools and the sizes in which the responding teachers' experience was gained.

Teachers with single-size experience tended to select K-6 minimums in the same size range or close to it; for example, 70% of those with experience in only 1-4-room schools chose that size, and almost three-quarters of the teachers with only medium-size experience specified minimums within that range. While almost one-fifth of the teachers with only large-school experience considered at least 12 rooms necessary for quality education, an additional two-fifths placed the minimum at 8-11 rooms.

The minimum sizes selected by teachers with experience in two size ranges appear to be somewhat influenced by that experience. Teachers with small- and medium-size experience showed a pronounced inclination to choose minimum sizes between one and seven rooms (80%) for K-6 schools and ignored minimum sizes above 11 rooms. Teachers with small- and large-size experience responded similarly to those with medium- and large-size experience except that a higher proportion of the former chose 5-7 rooms, and of the latter 8-11 rooms.

TABLE 20 -- RELATIONSHIP BETWEEN SIZES OF SCHOOLS IN WHICH RESPONDING TEACHERS' EXPERIENCE WAS GAINED AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Sizes of Schools in which Teachers' Experience was Gained	Minimum Size of K-6 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12 & over classrooms (over 300 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%		No.	%
Small	14	70.0	3	15.0	2	10.0	1	5.0	100.0%	20	1.6
Medium	43	23.1	89	47.8	48	25.8	6	3.2	100.0	186	14.7
Large	60	12.8	137	29.3	185	39.5	86	18.4	100.0	468	37.1
Small and Medium	32	37.2	37	43.0	17	19.8	--	--	100.0	86	6.8
Small and Large	9	16.1	22	39.3	18	32.1	7	12.5	100.0	56	4.4
Medium and Large	57	17.1	111	33.2	128	38.3	38	11.4	100.0	334	26.5
Small, Medium and Large	34	30.4	41	36.6	35	31.3	2	1.8	100.0	112	8.9
Proportion of Sample	249	19.7	440	34.9	433	34.3	140	11.1		1,262	100.0

n = 1,262 Level of Significance = 0.0

Teachers with experience in all three size ranges might be expected to have the most valid opinions about minimum size. Among these multiple-experience teachers, support was fairly evenly divided among the three lowest ranges, with slightly more selecting 5-7 rooms than either 1-4 or 8-11 rooms. Less than 2% of these teachers considered more than 11 rooms necessary for quality education, while almost one-third considered 1-4 rooms adequate for K-6 schools.

There was a tendency among all teachers, regardless of their size experience to specify higher minimum sizes for K-8 schools than for K-6 (Appendix Table A32, page 107). Preference for very large schools was especially pronounced among those teachers who had gained some of their experience in large schools. Over one-half of the teachers with the greatest variety of experience recommended K-8 minimums within the 8-11 classroom range.

A high proportion of teachers, regardless of their experience, specified low minimum sizes for 7-8 schools. Even teachers with experience in only large schools more frequently selected 1-4 rooms than any other range. Two-fifths of teachers with experience in all three sizes chose 1-4 rooms as well. In fact, 1-4 rooms was the most popular choice of all groups regardless of the kind of size experience reported

Large schools (12 or more classrooms) were seen as minimum by fewer than one-fifth of any group. Only teachers with some large-school experience showed any support for this size range (Appendix Table A33, page 107).

The minimum-size responses of principals for K-6 schools reflect their reported experience. Over four-fifths of principals with experience in only small schools (1-4 classrooms) chose that size as minimum for a K-6 school, and over one-half of those with only medium-size experience specified minimums within that range. Principals with only large-school experience showed little tendency to choose low minimum sizes. While one-third chose minimums within the 12-18 room range, a further 36% chose 8-11 rooms.

The minimum sizes selected by principals with a combination of experience appears to be influenced by that experience. None of the principals with only small- and medium-size experience selected minimums above 11 rooms, and those with small- and large-school experience totally ignored the 5-7 range -- four-fifths of these chose eight or more rooms and one-fifth selected 1-4 rooms.

TABLE 21 -- RELATIONSHIP BETWEEN SIZES OF SCHOOLS IN WHICH RESPONDING PRINCIPALS' ADMINISTRATIVE EXPERIENCE WAS GAINED AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Sizes of Schools in which Principals' Experience was Gained	Minimum Size of K-6 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12 & over classrooms (over 300 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%		No.	%
Small	9	81.8	1	9.1	1	9.1	--	--	100.0%	11	7.1
Medium	10	35.7	8	28.6	7	25.0	3	10.7	100.0	28	18.2
Large	2	6.1	8	24.2	12	36.4	11	33.3	100.0	33	21.4
Small and Medium	5	41.7	5	41.7	2	16.7	--	--	100.0	12	7.8
Small and Large	1	20.0	--	--	2	40.0	2	40.0	100.0	5	3.2
Medium and Large	13	25.0	16	30.8	16	30.8	7	13.5	100.0	52	33.8
Small, Medium and Large	6	46.2	3	23.1	3	23.1	1	7.7	100.0	13	8.4
Proportion of Sample	46	29.9	41	26.6	43	27.9	24	15.6		154	100.0

n = 154 Level of Significance = 0.0024

Principals with experience in all three sizes preferred low minimum sizes for K-6 schools. Over 45% considered 1-4-room schools an acceptable size with 46% evenly divided between 5-7 rooms and 8-11 rooms. Less than one-tenth indicated a necessity for large schools.

Like teachers, principals showed much less inclination to recommend low minimum sizes for K-8 schools than for K-6 schools (Appendix Table A34 on page 108). Even those with only small-school experience showed less tendency to consider that range acceptable for a K-8 school -- only one-third did so.

Principals with experience in all three sizes showed greater preference for higher minimum sizes for K-8 schools than for K-6 schools. Less than one-tenth recommended minimums below five rooms, while four-fifths were evenly divided between support for minimums in the 5-7 and 8-11 classrooms size ranges. However, few considered large schools necessary -- about 15% placed the minimum at 12 or more rooms.

Preferred Size of School

Teachers and principals in the survey were asked to indicate in which size range of school, other things being equal, they would prefer to teach or be principal. Five size ranges were specified: 1-4 classrooms, 5-7, 8-11, 12-18, and 19 and over classrooms. The table showing the results of that item together with a discussion of their significance will be found on pages 85-87 of this report.

When minimum sizes were related to the teachers' and principals' school-size preferences, significant relationships were discerned in all cases. Table 22 shows the relationship between teachers' preferences and K-6 minimum size and Table 23 gives the same information for principals.*

As might be expected teachers were likely to select minimum sizes for K-6 schools at or below their preferred size. Most would not want to teach in schools which they considered too small to provide quality education. The exception seems to be those teachers who preferred to teach in 1-4-room schools. Over two-fifths of them recommended minimum sizes higher than the size in which they preferred to teach. This result may

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*Preferred size was also cross-tabulated with board, school, and individual characteristics. The results of this procedure are described in Table A45, page 112.

TABLE 22 -- RELATIONSHIP BETWEEN PREFERRED SIZE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Preferred Size of School	Minimum Size of K-6 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%	No.	%	No.	%		No. %
1-4 classrooms (up to 100 students)	54	57.4	25	26.6	11	11.7	3	3.2	1	1.1	100.0%	94 7.7
5-7 classrooms (101 - 150 students)	56	29.5	90	47.4	38	20.0	6	3.2	--	--	100.0	190 15.6
8-11 classrooms (151 - 300 students)	76	16.0	186	39.2	181	38.2	29	6.1	2	0.4	100.0	474 39.0
12-18 classrooms (301 - 500 students)	41	11.9	97	28.2	145	42.2	55	16.0	6	1.7	100.0	344 28.3
19 & over classrooms (over 500 students)	17	14.9	35	30.7	43	37.7	15	13.2	4	3.5	100.0	114 9.4
Proportion of Sample	244	20.1	433	35.6	418	34.4	108	8.9	13	1.1		1,216 100.0

n = 1,216 Level of Significance = 0.0

TABLE 23 -- RELATIONSHIP BETWEEN PREFERRED SIZE OF SCHOOL OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Preferred Size of School	Minimum Size of K-6 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	7	77.8	1	11.1	1	11.1	--	--	--	--	100.0%	9	6.0
5-7 classrooms (101 - 150 students)	4	36.4	5	45.5	1	9.1	1	9.1	--	--	100.0	11	7.3
8-11 classrooms (151 - 300 students)	20	37.7	18	34.0	13	24.5	2	3.8	--	--	100.0	53	35.1
12-18 classrooms (301 - 500 students)	12	18.2	13	19.7	27	40.9	14	21.2	--	--	100.0	66	43.7
19 & over classrooms (over 500 students)	2	16.7	4	33.3	1	8.3	4	33.3	1	8.3	100.0	12	7.9
Proportion of Sample	45	29.8	41	27.2	43	28.5	21	13.9	1	0.7	100.0	151	100.0

n = 151 Level of Significance = 0.0001

throw some doubt on the validity of responses from teachers of very small schools. It seems unreasonable to prefer to teach in a school that one feels cannot provide a quality education.

Most teachers who preferred large schools (over 12 classrooms) selected minimum sizes below that range. Over four-fifths of those indicating a preference for 12-18 classrooms and 95% of those indicating a preference for 19 or more classrooms selected minimums below that size.

The K-8 response (Appendix Table A36, page 109) followed a somewhat different pattern. Those preferring between one and seven rooms were more likely to specify higher minimum sizes. Less than one-third of those who preferred 1-4-room schools selected that size and fewer than one-half of those indicating a preference for 5-7 rooms chose that size or smaller as minimum. However, since type of school was not specified in the preference question, many of the teachers recommending K-8 minimums higher than their reported preferences could be K-6 school teachers. The trend shifts at 8-11 rooms where almost three-fifths of those who preferred teaching in schools in that size range also placed their minimum in that range.

Although more of those preferring large schools selected minimums in the same range than in the case of K-6 schools, two-thirds of teachers with a preference for 12-18 and 19-and-over-room schools still selected minimums below their preferred size.

When specifying a minimum size for a 7-8 school, most teachers recommended sizes at or below their preferred size (Appendix Table A37, page 109). With the exception of those teachers who preferred 12-18-room schools, every group of teachers more frequently selected 1-4 classrooms as the 7-8 minimum than any other size. Even two-fifths of the teachers with a preference for very large schools considered 1-4 rooms satisfactory for this type of school.

However, teachers indicating a preference for larger schools (more than 11 classrooms) were the only group with a substantial number choosing fairly high minimums. About one-quarter of those who specified a preference for 12-18-room schools and the same proportion of those with a preference for 19 or more rooms recommended minimum sizes of more than 11 rooms for intermediate schools.

Like the teachers, principals were most likely to select a minimum size for a K-6 school at or below their preferred size. As the preferred size increased, the proportion of principals selecting minimums below the preferred size also increased. Almost four-fifths of those principals

who indicated a preference for 1-4-room schools selected that range as minimum while 45% of those preferring a 5-7-room school gave the same range as minimum. Less than one-fifth of these selected higher minimums. Almost one-quarter of those with a preference for 8-11-room schools and one-fifth with a preference for 12-18-room schools selected minimum sizes within the same ranges. But almost all the rest specified lower minimums. Furthermore only 8.3% of those principals who preferred very large schools (19 or more classrooms) considered that size necessary for quality education. More than one-half of these selected fewer than 12 rooms as minimum.

A somewhat different pattern emerges in the table which shows the responses for K-8 schools. There was a greater tendency for principals who preferred small (1-4 and 5-7 classrooms) schools to specify a higher size as minimum for K-8 schools. Over two-fifths of those preferring 1-4 rooms and one-half of those preferring 5-7 chose higher ranges as K-8 minimums. A higher proportion of principals with a preference for schools of eight or more rooms selected their preferred size as minimum for K-8 schools than for K-6 schools (Table A38, page 110).

Principals tended to select minimum sizes for 7-8 schools at or below their preferred size. Only in the case of principals who preferred 5-7-room schools did a substantial number choose a higher minimum (50%). No more than one-fifth of any other group placed the minimum higher than the preferred size (Table A39, page 110).

Teaching Assignment

When the type of teaching assignment was examined in connection with the minimum sizes selected by the teachers for the three types of school, significant relationships were discovered in all cases. In Table 24 the relationship between the type of teaching assignment and the minimum size responses for K-6 schools is shown.

Table 24 shows that teachers who were teaching mixed grades were more likely to select lower minimum sizes than were teachers of single-grade classes. Relatively few teachers (15%) with single-grade assignments considered very small schools acceptable even for a K-6 school, while minimum sizes of nine or more classrooms were less popular among teachers with mixed-grade assignments than with teachers who had either single-grade or rotary assignments. About one-quarter of mixed-grade and rotary-grade teachers chose 1-4 rooms, and about one-quarter of single-grade and rotary teachers chose 9 or more rooms.

TABLE 24 -- RELATIONSHIP BETWEEN TYPE OF TEACHING ASSIGNMENT OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6 SCHOOLS

Type of Teaching Assignment	Minimum Size of K-6 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Single Grade	78	14.4	332	61.2	132	24.4	100.0%	542	44.6
Mixed Grade	99	25.2	235	59.9	58	14.8	100.0	392	32.3
Rotary	64	22.7	154	54.8	63	22.5	100.0	281	23.1
Proportion of Sample	241	19.8	721	59.4	253	20.8		1,215	100.0

n = 1,215 Level of Significance = 0.0000

A similar pattern may be observed in Appendix Table A40, page 110, which shows the relationship for K-8 minimum sizes.

Teachers who were already in a situation of mixed-grade classes may have been more likely than single-grade teachers to view their existence as compatible with quality education, and therefore to consider small schools adequate. Single-grade teachers, on the other hand, may be more committed to the view that one class per grade level is a basic minimum. However, the majority of both groups (60%) agreed that the minimum should be placed within the 5-8-room range.

As might be expected, teachers with rotary assignments seemed to prefer larger minimum sizes for 7-8 schools than those with single or mixed grades, and mixed-grade teachers were least likely to select sizes within the highest range (Appendix Table A41, page 111). Obviously, teachers with rotary assignments were either in 7-8 schools, or in K-8 schools large enough to support a rotary program. These teachers would be more aware of the size required to maintain intermediate schools, and be more likely to consider intermediate schools necessary for satisfactory education of senior elementary students.

Conditions Which Influence Opinions About Minimum School Size

In the questionnaires, teachers, principals, and supervisory officers were asked to indicate which of nine possible conditions were likely to occur in schools smaller than their stipulated minimum size for each of the three types of school, K-6, K-8, and 7-8. They were also asked whether conditions which they regarded as likely to occur below the minimum size were an educational disadvantage and whether they had taken such a disadvantage into account in determining minimum size.

Two of the conditions listed -- low teacher morale and low student morale -- were considered unrelated to small school size in the opinion of most respondents. While some acknowledged that such conditions might occur in schools below their minimum size, very few of these admitted to being influenced by such considerations in arriving at a minimum size.

The following table shows the results for teachers, principals, and supervisory officers. Only the results for conditions in a K-6 school are reported since the patterns for K-8 and 7-8 schools were almost identical.

TABLE 25 -- CONDITIONS ANTICIPATED BELOW MINIMUM SIZE AND THEIR IMPACT ON OPINIONS OF ACCEPTABLE MINIMUM SIZE FOR K-6 SCHOOLS

Condition	Percentage of Respondents Indicating Condition								
	Teachers			Principals			Supervisory Officers		
	Likely to Occur	Disadvantageous	Taken Into Account	Likely to Occur	Disadvantageous	Taken Into Account	Likely to Occur	Disadvantageous	Taken Into Account
Lack of Special Skills Among Teachers	70.8%	59.3%	41.7%	72.5%	68.0%	58.2%	85.0%	78.3%	74.2%
High Proportion of Mixed Grades	77.4	51.8	42.1	77.8	49.7	41.8	85.0	40.0	38.3
Lack of Librarian	77.6	66.0	43.4	77.8	74.5	56.9	75.0	69.2	59.2
Limited Professional Development	39.8	31.4	19.7	53.6	48.4	32.7	64.2	55.0	45.0
Principal Teaching Part-Time	64.0	23.1	11.7	71.9	34.6	26.8	61.7	18.3	13.3
Shared Principal	59.6	42.5	22.8	60.8	41.0	34.6	51.7	32.5	22.5
Limited Extra-Curricular Activities	41.6	33.5	20.3	41.2	35.3	24.2	55.0	48.3	40.0
	n = 1246			n = 153			n = 120		

About three-quarters of the responding teachers reported that schools below their minimum size would likely lack teachers with specialties, have a high proportion of mixed grades, and lack a librarian. From one-half to two-thirds indicated that these conditions would be disadvantageous and over two-fifths reported that the possibility of such conditions had influenced their answers about minimum size.

The response from principals was similar. About three-quarters expected these three conditions to occur in schools below their specified minimum size, and while just under one-half the principals saw a high proportion of mixed grades as disadvantageous, just over two-fifths reported that this consideration had influenced their answers on minimum size. Over 55%, however, indicated that the possibility of a shortage of specialized teachers and the lack of a librarian had influenced their answers on minimum size.

Eighty-five percent of the supervisory officers expected that schools below their minimum size would lack teachers with special skills and have a high proportion of mixed grades, while three-quarters did not expect such schools to have a librarian.

However, a much higher percentage of supervisory officers than teachers or principals was concerned about the lack of special skills among teachers in small schools. Almost three-quarters indicated that this consideration had been taken into account when specifying a minimum size. Lack of a librarian was the second most important consideration with almost three-fifths acknowledging it as a factor in their decision. Supervisory officers in the study were not as concerned about a high proportion of mixed grades as were teachers and principals. Although 85% considered this situation likely to occur below their minimum size, only 40% saw it as a disadvantage and 38% claimed it influenced their selection of a minimum size.

A larger proportion of each of the three groups of respondents reported that sharing a principal with another school was disadvantageous compared to a situation in which the principal teaches part-time. While a teaching principal was regarded as disadvantageous by one-quarter of teachers, one-third of principals, and under one-fifth of supervisory officers, the percentages that considered sharing a principal disadvantageous were 43%, 41%, and 33%, respectively.

Not surprisingly, of the three groups, principals were more concerned about these two possibilities than were supervisory officers and teachers. While 13% of supervisory officers and 12% of teachers admitted being influenced by the possibility of a principal teaching part-time, almost 27% of the principals gave this as a reason. Similarly, while 23% of supervisory officers and teachers were sufficiently concerned about sharing to give it as a reason, almost 35% of principals reported being influenced by this consideration.

Limited opportunities for professional development were of concern to a higher proportion of supervisory officers than of teachers or principals. While 45% of supervisory officers gave it as a reason, one-third of principals and one-fifth of teachers did so. Just under one-quarter of the principals and one-fifth of the teachers took the possibility of limited extracurricular activities into account; 40% of supervisory officers were influenced by this consideration.

These results indicate that the respondents share real concerns about disadvantageous conditions which may occur in small schools. These concerns focus particularly on the lack of specialist teachers, lack of a librarian, and the use of mixed-grade classes. Because of the range of opinion about minimum size in absolute terms, it is impossible to say which conditions are anticipated to become problematic at which sizes. Tables were constructed and inspected that cross-tabulated these data with those of minimum size. No clear trends were evident. Possibly the interaction between type of school, minimum size, and opinions about the probability or seriousness of these conditions are too involved to reveal any simple patterns.

However, as selected minimum sizes rose, the proportion of respondents who saw these conditions as disadvantageous also increased, i.e. those who selected high minimum sizes were more concerned about the existence of these conditions than those who selected low minimum sizes.

Possible Compensatory Actions

A question was devised to allow the respondents to rate the relative merits of seven compensatory actions that have been proposed for low-enrolment schools. They were asked to indicate the relative value of each of the particular actions. The results are displayed in the following table.

TABLE 26 -- RESPONDENTS" ASSESSMENT OF THE RELATIVE MERIT OF VARIOUS COMPENSATORY ACTIONS PROPOSED FOR SCHOOLS APPROACHING MINIMUM SIZE

Proposed Action	Number and Percentage of Respondents Assessing Value of Action as:															
	Teachers						Principals						Supervisory Officers			
	Little		Moderate		Considerable		Little		Moderate		Considerable		Little		Moderate		Considerable	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Decrease class size	88	7.0	232	18.3	947	74.7	10	6.4	42	27.1	103	66.5	24	22.7	47	44.3	35	33.0
Provide extra learning materials	41	3.2	347	27.4	879	69.4	51	3.8	99	32.7	10	63.5	10	8.7	50	43.5	55	47.8
Employ teachers with multiple specialties	106	8.4	485	38.7	663	52.9	6	3.8	48	30.4	104	65.8	2	1.7	37	31.4	79	66.9
Use itinerant or part-time teachers	175	13.9	500	39.6	587	46.5	14	9.0	83	53.2	59	37.8	7	6.0	66	56.9	43	37.1
Use community volunteers	207	16.4	606	48.0	449	35.6	24	15.2	86	54.4	48	30.4	18	15.4	65	55.5	34	29.1
Use extra teacher aides	209	16.8	570	45.7	467	37.5	23	14.4	85	53.1	52	32.5	16	13.7	62	53.0	39	33.3
Use central-office consultants	453	37.3	522	43.0	240	19.7	49	32.2	76	50.0	27	17.8	33	29.5	67	59.8	12	10.7
	n = 1215 - 1267						n = 152 - 160						n = 106 - 118					

Almost three-quarters of the teachers and two-thirds of the principals in the survey reported that decreased class size would have considerable value in alleviating the problems associated with small schools: only about 7 percent of each of these groups saw this strategy as having little or no value. Supervisory officers, however, were much less likely to view this action as more than moderately useful. Only one-third assessed it as having considerable value, and about 23% rated is as having little or no value.

In the opinion of the supervisory officers, the most useful action to compensate for the disadvantages that might develop as schools approach minimum size is to ensure that teachers collectively have as many specialties as possible. Two-thirds assessed this as having considerable value and just under one-third of moderate value. This view was shared by principals, two-thirds of whom rated this action as having considerable value. Slightly more than half the teachers agreed with this assessment.

Principals and teachers were in agreement about the value of providing extra resources and an effective learning materials centre -- about two-thirds of each group viewed this action as having considerable value, with about three percent assigning it little or no value. Although fewer than half the supervisory officers indicated this action had considerable value, no other action except that of employing teachers with specialties was rated more frequently by the supervisory officers as having considerable value.

Employing itinerant and part-time teachers was seen as a considerably useful strategy by over one-third of principals and supervisory officers and as moderately useful by over one-half of both groups. Teachers were more inclined to consider this action as more useful -- almost 50% rated it as having considerable value.

There was general agreement among the three groups of respondents concerning the value of community volunteers and extra teaching aids: about one-half indicated these to have moderate value, while one-third rated their value as considerable.

The least useful action, according to all groups of respondents, was the proposal to increase the time central office consultants spent in the school. No more than 20% of teachers and principals and 11% of supervisory officers rated this as considerably valuable and from 29 to 38% considered the proposal to have little or no merit.

School Size as a Factor: Relative Importance of School Size to Teachers and Principals

To establish the relative importance of school size, teachers and principals were asked to select, from a list of 11 factors, those five which they deemed most significant in choosing a school. They were also asked to rank-order the five factors they selected. Thus each factor could be selected as first, second, third, fourth, or fifth choice, or not at all. The responses are summarized in Tables 27 and 28.

Class size topped the list as the first or second choice of two-fifths of the teachers; only 23% did not select this as one of the five most important factors in selecting a school.

The age range of the students, the principal, and whether the school had traditional or open-plan architecture were each highly relevant for one-quarter of teachers who gave these as either first or second choice. But the surprise was the high proportion of teachers (80%) who did not select school size as a factor even at the end of a questionnaire concerning size of school. Only the proportion of students bused was less relevant; 95% did not select it as one of their five important factors.

This result suggests that while school size may be relevant financially, administratively, and in terms of program, it is not important to most teachers as they evaluate a prospective teaching situation. Teachers certainly have opinions about school size, reasons for holding these opinions, and proposals for compensating for the disadvantage of smallness. But they do not perceive school size as very important when looking for a place to work.

Composition of staff was selected as the first or second choice by 54% of the principals; only 14.4% did not indicate this as one of the five most important considerations in selecting a school. Facilities at the school were very important to one-third, who chose it first or second, while an additional 47% included this as a third, fourth, or fifth choice.

School size was third highest in the list of factors. About one-quarter did not select it, while for another one-quarter it was the first or second choice, and one-half ranked it from third to fifth. School size may be more important to principals than to teachers because it is to a principal what class-size is to a teacher -- it determines his or her workload. and, in some cases, his or her remuneration.

Of lease importance to principals as to teachers was the proportion of students bused -- only 9% mentioned it as one of the five factors they would consider.

TABLE 27 -- TEACHERS' RATINGS OF IMPORTANCE OF VARIOUS FACTORS TO CHOICE OF SCHOOL IN WHICH TO TEACH

Factor	Percentage of Teachers for Which Factor Was:		
	1st/2nd Choice	3rd/4th/5th Choice	Not Selected
Class Size	41,3%	36.2%	22.5%
Principal	28.6	34.2	37.2
Students' age range	24.7	29.6	45.8
Traditional or open plan	26.1	28.2	46.7
Facilities	16.9	35.7	47.3
Compatibility of staff	17.5	34.5	48.0
Distance from residence	16.2	28.3	55.5
Type of neighbourhood	8.0	21.6	70.4
Students' ability range	10.7	17.7	71.6
School Size	3.4	16.7	79.8
Proportion of students bused	0.4	4.3	95.2

n = 1,349

TABLE 28 -- PRINCIPALS' RATINGS OF IMPORTANCE OF VARIOUS FACTORS TO CHOICE OF SCHOOL IN WHICH TO WORK

Factors	Percentage of Principals for Which Factor Was:		
	1st/2nd Choice	3rd/4th/5th Choice	Not Selected
Composition of staff	53.9%	42.6%	14.4%
Facilities	33.0	46.8	20.4
School size	28.2	48.0	24.0
Average class size	17.4	42.6	40.1
Traditional or open plan	18.0	27.0	55.1
Type of neighbourhood	15.0	33.6	51.5
Students' age range	15.6	17.4	67.1
Area superintendent	7.8	18.6	73.7
Distance from residence	5.4	12.0	82.6
Students' ability range	3.0	10.8	86.2
Proportion of students bused	1.2	7.8	91.0

n = 167

Preferred Size of School

In case school size did not appear to be an important factor to teachers and principals in the choice of school in which to work, a final question was included to deal directly with school size. Respondents were asked in which of the following sizes of schools they would prefer to teach if all other factors were equal: (a) 1-4 operating classrooms (up to 100 students); (b) 5-7 (101-150 students); (c) 8-11 (151-300 students); (d) 12-18 (301-500 students); and (e) 19 or more classrooms (over 500 students). The results are displayed in Table 27.*

Only 6.8% of teachers (84 out of 1,230) expressed a preference for teaching in schools of fewer than five classrooms (100 or fewer students); 4.7% of principals (seven out of 149) would prefer to work in that size of school. Showing a preference for schools with from 5-7 classrooms (enrolment between 101 and 150) were 15% of the teachers and 8.1% of the principals. Thus a higher percentage of teachers than of principals preferred to teach in schools with fewer than eight classrooms (enrolment of 150 or less): 21.8% of teachers but only 12.8% of principals.

The most favoured range for teachers was that of 8-11 classrooms (enrolment 151-300); almost two-fifths selected that size. For principals, however, the 12-18-room school was the most desirable: 43.6% selected it. Taken together, these two ranges accounted for over two-thirds of the teachers sample and more than three-quarters of the principal sample. Only 9.6% of teachers and 8.7% of principals would prefer to teach in schools with more than 18 classrooms (over 500 students).

The table also gives breakdowns as to the opinions concerning preferred size according to the type of school in which the respondent was working when the study was conducted.

The most obvious differences by type of school may be discerned by examining the divergences of the percentages in the three types of school from the total percentages. The most obvious divergence for teachers is in the percentages preferring schools of 8-11 classrooms -- only 34% of K-6 teachers chose this size as opposed to 44% and 43% respectively of K-8 and 7-8 teachers. For principals there were large divergences in those choosing schools in both the 8-11 and 12-18 ranges: 27.3% of K-6, 36.8%

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*See Appendix for results of cross-tabulations of preferred size with board, school, and other individual characteristics.

TABLE 29 -- NUMBER AND PERCENTAGE OF TEACHERS AND PRINCIPALS PREFERRING TO TEACH IN VARIOUS SIZES OF SCHOOLS BY TYPE OF SCHOOL IN WHICH LOCATED

Preferred Size of School	Teachers								Principals							
	Type of School								Type of School							
	K-6		K-8		7-8		TOTALS		K-6		K-8		7-8		TOTALS	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1-4 classrooms (up to 100 students)	39	7.1	33	6.6	12	6.6	84	6.8	4	6.1	2	3.1	1	5.3	7	4.7
5-7 classrooms (101 - 150 students)	95	17.3	73	14.6	17	9.4	185	15.0	5	7.6	6	9.4	1	5.3	12	8.1
8-11 classrooms (151-300 students)	186	33.9	221	44.2	78	43.1	485	39.4	18	27.3	27	42.2	7	36.8	52	34.9
12-18 classrooms (301 - 500 students)	178	32.4	130	26.0	50	27.6	358	29.1	34	51.5	22	34.4	9	47.4	65	43.6
19 & over classrooms (over 500 students)	51	9.3	43	8.6	24	13.3	118	9.6	5	7.6	7	10.9	1	5.3	13	8.7
TOTALS	549	100.0	500	100.0	181	100.0	1230	100.0	66	40.7	64	39.5	19	11.7	149	100.0
	n = 1,230								n = 149							

of 7-8, and 42.2% of K-8 principals preferred to work in 8-11-room schools and 34.4% of K-8, 47.4% of 7-8 and 51.5% of K-6 principals preferred to work in 12-18-room schools. Another point to note is that while 12-18-room schools were preferred by the largest percentage of all principals (43.6%), 8-11-room schools were most highly preferred by the principals of K-8 schools.

If the difficulty of attracting qualified and motivated staff is a factor in determining the lower limit for size of elementary school it would seem from this study that having schools with fewer than eight rooms or 151 students should be avoided if possible.

Relative Importance of Some Factors Influencing Recommendations to Close a School

Supervisory officers were asked to rate the importance of six factors which they might consider when making a recommendation to close or not to close a school suffering from declining enrolment. Four categories of importance were specified: unimportant, of little importance, very important, and of the highest importance. The results are presented in Table 30.

It is clear from Table 30 that the quality of the school program far outweighs the other five suggested factors in the opinion of supervisory officers as being the major consideration when recommending the closure of a school -- 73.1% of the respondents gave this reply. Other candidates for "of highest importance" status were much less highly favoured; the next highest (importance of school to the community) being selected by only 29.2% of the supervisory officers. This finding should be viewed in conjunction with the minimum sizes selected. Supervisory officers seem to be saying that schools should be closed if they fall below rather high minimum sizes. But the picture changes considerably when we look at the last two rating columns of Table 30 combined. This gives us the following ranking and percentages for factors rated as at least "very important."

TABLE 30 -- ASSESSMENT OF SUPERVISORY OFFICERS OF THE RELATIVE VALUE OF VARIOUS FACTORS IN RECOMMENDING SCHOOL CLOSURE

Factor	Degree of Importance							
	Unimportant		Of Little Importance		Very Important		Of the Highest Importance	
	No.	%	No.	%	No.	%	No.	%
Quality of School Program	1	0.8	4	3.4	27	22.7	87	73.1
Per-Pupil Cost	4	3.4	19	16.1	84	71.2	11	9.3
Importance of School to the Community	--	--	2	1.7	83	69.2	35	29.2
Official Board Policy	10	8.6	34	29.3	52	44.8	20	17.3
General Professional Opinion	1	0.8	20	17.1	81	69.2	15	12.8
Opinion of School Staff	1	0.8	36	30.3	73	61.3	9	7.6

n = 116-120

Rank	Factor	Percent
1	Importance of School to the Community	98.4%
2	Quality of School Program	95.8
3	General Professional Opinion	82.0
4	Per-Pupil Cost	80.5
5	Opinion of School Staff	68.9
6	Official Board Policy	62.1

It now appears that the importance of the school to the community and the quality of the school program are equally important in supervisory officers' eyes. Together in the low 80 percents are general professional opinion and per-pupil cost and in the low 60 percents the opinion of school staff and official board policy.

There is an interesting dichotomy in these pairs. According to the supervisory officers, quality of program would dictate closing schools below a certain size but community pressures would suggest they remain open. General professional opinion says smaller schools are more "humane" and contribute to better school morale, while per-pupil cost studies indicate such schools are more expensive than larger ones. Finally the staffs of marginal schools would probably favour continued operation while board policy would often be to close schools below a certain size.

The typical supervisory officers' recommendation, therefore, would be a delicate compromise between opposing principles, probably weighted towards the educational as opposed to the social and financial considerations.

CONCLUSIONS

In this study the investigators attempted to assess the *educational* implications, to school boards, of declining enrolments. They sought to find out whether there is any consensus among those engaged in elementary education as to when a school becomes too small to provide a satisfactory education, why small schools are considered unsatisfactory, and, where there is no alternative to a smaller school, ways of ameliorating the unsatisfactory aspects of small schools.

A stratified sample of elementary teachers, their principals and vice-principals, and the supervisory officers of their employing boards who are concerned with elementary education responded to questionnaires.

There is no clear-cut agreement within or among the three groups as to an absolute minimum size for an elementary school (5.3% of teachers, 5.8% of principals, and 1.6% of supervisory officers felt that one or two operating classrooms could still provide a satisfactory education in JK-6 schools -- for a JK-8 school the corresponding percentages were 3.7, 3.2, and .9).

However, majority opinion in all three groups favoured having at least one operating classroom per year or grade level (for K-6 schools 62.4% of principals, 72.2% of teachers, and 74.8 % of supervisory officers picked minimum sizes of 6 or more classrooms; and for K-8 schools, 65.4% of principals, 73.8% of teachers, and 80% of supervisory officers picked 8 or more classrooms).

Principals have a greater tendency to pick smaller minimums than have teachers and teachers, in turn, a greater tendency to pick smaller minimums than supervisory officers.

There is enough divergence, however, to indicate that what may appear to be an absolute minimum size to one group of teachers or administrators may be considered quite adequate by another group.

There is no kind of agreement with respect to minimum size of senior public or intermediate schools.

Three major disavantages of small schools, in the opinion of the three groups, are as follows:

1. The various specialties (music, art, special education, physical education) cannot be adequately covered by the staff of a small school.
2. A high proportion of mixed grades (seen as a disadvantage) is necessitated.
3. There is usually no librarian and resource centre.

Ways in which small schools could be made more effective are to:

1. Have a conscious policy of selecting teachers who can collectively teach as many of the specialties as possible.
2. Decrease class size.
3. Provide extra learning materials and a well-equipped resource centre.

Some of the differences of opinion within groups reflect the background of the respondents and their present and past situations. Larger minimum sizes tended to be selected by teachers and principals from urban

boards, large boards, and large schools, and by those whose experience had been in medium- and large-size schools. On the other hand, smaller minimum sizes tended to be chosen by teachers and principals from small boards, rural boards, and small schools, and by those whose experience included experience in small schools.

Surprisingly, most teachers did not consider school size to be an important factor in their choice of a school in which to teach. Principals, however, did rate school size very high among consideration in the choice of a school in which to be principal.

If one classroom for each year or grade level is accepted as a legitimate criterion of minimum school size, it must be noted that there are a large number of schools in operation in Ontario that are unsatisfactory by that criterion. Inspection of the actual situation according to the Directory of Education for 1975-76 shows that many of the boards that operate such schools have attempted to lessen the disavantages of small schools by decreasing pupil-teacher ratios in them.

For the first 100 schools listed in the Directory as having fewer than 150 students in a junior school, or fewer than 200 students in a junior-senior school, the range in pupil-teacher ratios is from a low of 13.50 to a high of 27.33, with a median of 20.70. In comparison, the first 100 schools having more than 500 students in a junior or junior-senior school have pupil-teacher ratios ranging from 20.23 to 31.67, with a median of 25.67. The existence of such a large difference in medians after a period of five years of expenditure ceilings indicates that boards have felt the need to staff their smaller schools more generously than their larger schools in order to maintain the educational quality of the programs being offered. They have done so even though it has meant higher per-pupil costs in small schools than in larger ones. The implication is that as enrolments decline, boarderline schools, in order to maintain the quality of their programs, require proportionately more staff, and thus incur increased per-pupil costs. There is not much that can be done about this problem in the case of rural schools, in view of the rapidly increasing costs of busing. But urban and suburban schools have the alternative of closing a small school. The implications of this alternative have been dealt with in an earlier part of this study.*

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*See Rideout, E. Brock, *et al. Meeting Problems of Declining Enrolment*, Ministry of Education, Toronto, 1975.

APPENDIX: SUPPLEMENTARY TABLES AND THE QUESTIONNAIRE

Supplementary Tables

TABLE A1 -- DISTRIBUTION OF PRINCIPALS IN THE STUDY SAMPLE BY SCHOOL TYPE AND ENROLMENT RANGE

Type of School	Size of School									
	Up to 150 students (1-7 classrooms)		151-300 students (8-11 classrooms)		301-500 students (12-18 classrooms)		Over 500 students (over 19 classrooms)		TOTALS	
	No.	%	No.	%	No.	%	No.	%	No.	%
K-6 (including JK/K-5, 1-5, JK-6, 1-6)	17	10.4	19	11.6	18	11.0	14	8.5	68	41.5
K-8 (including JK/K-7, 1-7, JK-8, 1-8)	14	8.5	17	10.4	18	11.0	14	8.5	63	38.4
7-8 (including 5-8, 6-8, 7-9)	2	1.2	7	4.3	7	4.3	4	2.4	20	12.2
Other	8	4.9	3	1.8	2	1.2	--	--	13	7.9
TOTALS	41	25.0	46	28.0	45	27.4	32	19.5	164	100.0

TABLE A2 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION AND SIZE OF BOARD (NUMBER AND PERCENT OF RESPONDING TEACHERS)

Board Characteristic	Size of Board								
	Small (up to 8,000 students)		Medium (8,001-15,000 students)		Large (over 15,000 students)		TOTAL	Proportion of Sample	
	No.	%	No.	%	No.	%		No.	%
Degree of Urbanization									
Large City Boards	--	--	83	15.5	452	84.5	100.0%	535	39.7
County* Boards which include a Large City	--	--	54	20.7	207	79.3	100.0	261	19.3
County* Boards which include a Small City	158	38.2	256	61.8	--	--	100.0	414	30.7
County* Boards without a City	139	100.0	--	--	--	--	100.0	139	10.3
Proportion of Sample	297	22.0	393	29.1	659	48.9	100.0	1,349	100.0

n = 1,349 Level of Significance = 0.0

*In this and all future tables, includes some district boards.

TABLE A3 -- NUMBER AND PERCENTAGE OF RESPONDENTS SELECTING MINIMUM ACCEPTABLE SIZE FOR K-6 SCHOOLS

Minimum Number of Classrooms	Respondents Selecting Each Size					
	Teachers		Principals		Supervisory Officers	
	No.	%	No.	%	No.	%
1	44	3.5	6	3.9	1	0.8
2	23	1.8	3	1.9	1	0.8
3	42	3.3	8	5.2	7	5.9
4	140	11.1	29	18.8	14	11.8
5	102	8.1	12	7.8	7	5.9
6	143	11.3	19	12.3	12	10.1
7	195	15.5	10	6.5	11	9.2
8	310	24.6	23	14.9	22	18.5
9	19	1.5	4	2.6	3	2.5
10	103	8.2	16	10.4	14	11.8
11	1	0.1	--	--	1	0.8
12	47	3.7	12	7.8	9	7.6
13	2	0.2	2	1.3	3	2.5
14	20	1.6	4	2.6	4	3.4
15	21	1.7	1	0.7	3	2.5
16	29	2.3	4	2.6	2	1.7
17	4	0.3	--	--	1	0.8
18 and over	17	1.3	1	0.7	4	3.4
Mean	7.35		7.18		8.33	
Median	7.20		6.50		7.80	
n =	1,262		154		119	

TABLE A4 -- NUMBER AND PERCENTAGE OF RESPONDENTS SELECTING MINIMUM ACCEPTABLE SIZE FOR K-8 SCHOOLS

Minimum Number of Classrooms	Respondents Selecting Each Size					
	Teachers		Principals		Supervisory Officers	
	No.	%	No.	%	No.	%
1	37	3.0	4	2.6	1	0.9
2	9	0.7	1	0.6	--	--
3	14	1.4	2	1.3	1	0.9
4	38	3.1	10	6.4	2	1.7
5	81	6.6	17	10.9	9	7.8
6	95	7.8	12	7.7	8	7.0
7	44	3.6	8	5.1	2	1.7
8	153	12.5	20	12.8	14	12.2
9	172	14.1	12	7.7	8	7.0
10	299	24.4	24	15.4	16	13.9
11	10	0.8	2	1.3	3	2.6
12	84	6.9	11	7.1	14	12.2
13	5	0.4	3	1.9	--	--
14	15	1.2	7	4.5	5	4.4
15	49	4.0	5	3.2	2	1.7
16	25	2.0	5	3.2	10	8.7
17	5	0.4	--	--	5	4.3
18 and over	88	7.2	13	8.3	15	13.0
Mean	9.61		9.61		11.48	
Median	9.32		8.83		10.28	
n =	1,223		156		115	

TABLE A5 -- NUMBER AND PERCENTAGE OF RESPONDENTS SELECTING MINIMUM ACCEPTABLE SIZE FOR 7-8 SCHOOLS

Minimum Number of Classrooms	Respondents Selecting Each Size					
	Teachers		Principals		Supervisory Officers	
	No.	%	No.	%	No.	%
1	82	7.3	8	5.5	1	0.9
2	158	14.1	3	2.0	1	0.9
3	29	2.6	1	0.7	--	--
4	129	11.5	14	9.6	8	6.9
5	54	4.8	1	0.7	2	1.7
6	174	15.5	25	17.1	13	11.2
7	25	2.2	4	2.7	1	0.9
8	129	11.5	27	18.5	15	12.9
9	13	1.2	--	--	1	0.9
10	149	13.3	24	16.4	14	12.0
11	1	0.1	--	--	1	0.9
12	49	4.4	16	11.0	26	22.4
13	--	--	1	0.7	--	--
14	14	1.2	3	2.1	1	0.9
15	53	4.7	5	3.4	4	3.4
16	9	0.8	2	1.4	5	4.3
17	2	0.2	1	0.7	3	2.5
18 and over	51	4.5	11	7.5	20	17.3
Mean	7.10		9.04		11.53	
Median	6.12		8.13		11.54	
n =	1,121		146		116	

TABLE A6 -- PERCENTAGE OF RESPONDING TEACHERS SELECTING VARIOUS MINIMUM SIZES FOR K-6, K-8, AND 7-8 SCHOOLS -- ADJUSTED SAMPLE

Minimum Size of School (Number of Classrooms)	Type of School		
	K-6	K-8	7-8
1	3.4%	2.9%	6.2%
2	1.3	0.5	13.7
3	3.0	1.0	2.8
4	9.9	2.8	11.4
5	6.9	5.2	4.7
6	10.7	7.2	15.8
7	17.4	3.3	2.3
8	25.3	12.2	10.9
9	1.7	14.4	1.0
10	8.4	25.6	14.2
11	0.1	1.1	0.1
12	3.7	7.1	4.2
13	0.2	0.3	--
14	1.6	1.2	1.4
15	1.9	4.7	5.1
16	2.5	2.1	0.9
17	0.3	0.5	0.2
18 and over	1.6	7.9	5.0
Mean	7.54	9.91	7.31
Median	7.35	9.52	6.20

TABLE A7 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING TEACHERS FOR K-6 AND K-8 SCHOOLS

Minimum Size of K-6 School (Number of Classrooms)	Minimum Size of K-8 School (Number of Classrooms)														Proportion of Sample	
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			No.	%
1 - 2	45	71.4	16	25.4	1	1.6	--	--	--	--	1	1.6	100.0%		63	5.3
3 - 4	--	--	34	19.3	116	65.9	15	8.5	10	5.7	1	0.6	100.0		176	14.7
5 - 6	--	--	1	0.4	51	21.5	132	55.7	40	16.9	13	5.5	100.0		237	19.8
7 - 8	1	0.2	--	--	--	--	46	9.5	380	78.2	59	12.1	100.0		486	40.6
9 - 10	--	--	--	--	1	0.9	2	1.8	27	23.9	83	73.5	100.0		113	9.4
11+	--	--	--	--	--	--	--	--	5	4.1	116	95.9	100.0		121	10.1
Proportion of Sample	46	3.8	51	4.3	169	14.1	195	16.3	462	38.6	273	22.8	100.0		1,196	100.0

n = 1,196 Level of Significance = 0.0

TABLE A8 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING SUPERVISORY OFFICERS FOR K-6 AND K-8 SCHOOLS

Minimum Size of K-6 School (Number of Classrooms)	Minimum Size of K-8 School (Number of Classrooms)														Proportion of Sample	
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			No.	%
1 - 2	1	50.0	1	50.0	--	--	--	--	--	--	--	--	100.0%		2	1.7
3 - 4	--	--	2	10.0	14	70.0	3	15.0	1	5.0	--	--	100.0		20	17.4
5 - 6	--	--	--	--	3	17.6	10	58.8	3	17.6	1	5.9	100.0		17	14.8
7 - 8	--	--	--	--	--	--	3	9.4	19	59.4	10	31.3	100.0		32	27.8
9 - 10	--	--	--	--	--	--	--	--	1	5.9	16	94.1	100.0		17	14.8
11+	--	--	--	--	--	--	--	--	--	--	27	100.0	100.0		27	23.5
Proportion of Sample	1	0.9	3	2.6	17	14.8	16	13.9	24	20.9	54	47.0			115	100.

n = 115 Level of Significance = 0.0

TABLE A9 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING TEACHERS FOR K-6 AND 7-8 SCHOOLS

Minimum Size of K-6 School (Number of Classrooms)	Minimum Size of 7-8 School (Number of Classrooms)														Proportion of Sample	
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			No.	%
1 - 2	53	86.9	4	6.6	1	1.6	--	--	3	4.9	--	--	100.0		61	5.5
3 - 4	65	40.1	40	24.7	33	20.4	11	6.8	9	5.6	4	2.5	100.0		162	14.7
5 - 6	42	19.3	39	17.9	56	25.7	43	19.7	27	12.4	11	5.0	100.0		218	19.8
7 - 8	76	17.1	61	13.7	109	24.5	73	16.4	62	14.0	63	14.2	100.0		444	40.3
9 - 10	4	3.8	8	7.5	11	10.4	14	13.2	35	33.0	34	32.1	100.0		106	9.6
11+	--	--	5	4.5	15	13.5	11	9.9	19	17.1	61	55.0	100.0		111	10.1
Proportion of Sample	240	21.8	157	14.2	225	20.4	152	13.8	155	14.1	173	15.7			1,102	100.0

n = 1,102 Level of Significance = 0.0

TABLE A10 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING TEACHERS FOR K-8 AND 7-8 SCHOOLS

Minimum Size of K-8 School (Number of Classrooms)	Minimum Size of 7-8 School (Number of Classrooms)														Proportion of Sample	
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			No.	%
1 - 2	41	93.2	2	4.5	--	--	--	--	1	2.3	--	--	100.0%		44	4.0
3 - 4	28	58.3	11	22.9	5	10.4	1	2.1	2	4.2	1	2.1	100.0		48	4.4
5 - 6	58	38.2	34	22.4	36	23.7	16	10.5	7	4.6	1	0.7	100.0		152	13.8
7 - 8	41	22.3	33	17.9	39	21.2	42	22.8	22	12.0	7	3.8	100.0		184	16.7
9 - 10	66	15.7	61	14.5	108	25.7	60	14.3	77	18.3	49	11.6	100.0		421	38.3
11+	6	2.4	16	6.4	38	15.1	33	13.1	46	18.3	112	44.6	100.0		251	22.8
Proportion of Sample	240	21.8	157	14.3	226	20.5	152	13.8	155	14.1	170	15.5			1,100	100.0

n = 1,100 Level of Significance = 0.0

TABLE A11 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING PRINCIPALS FOR K-6 AND 7-8 SCHOOLS

Minimum Size of K-6 School (Number of Classrooms)	Minimum Size of 7-8 School (Number of Classrooms)														Proportion of Sample	
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			No.	%
1 - 2	4	50.0	2	25.0	2	25.0	--	--	--	--	--	--	100.0%		8	5.6
3 - 4	5	14.7	7	20.6	8	23.5	6	17.6	4	11.8	4	11.8	100.0		34	23.8
5 - 6	--	--	4	14.3	6	21.4	8	28.6	5	17.9	5	17.9	100.0		28	19.6
7 - 8	2	6.7	1	3.3	4	13.3	10	33.3	5	16.7	8	26.7	100.0		30	21.0
9 - 10	--	--	1	5.0	2	10.0	4	20.0	5	25.0	8	40.0	100.0		20	14.0
11+	--	--	--	--	3	13.0	3	13.0	3	13.0	14	60.9	100.0		23	16.1
Proportion of Sample	11	7.7	15	10.5	25	17.5	31	21.7	22	15.4	39	27.3			143	100.0

n = 143 Level of Significance = 0.0000

TABLE A12 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING PRINCIPALS FOR K-8 AND 7-8 SCHOOLS

Minimum Size of K-8 School (Number of Classrooms)	Minimum Size of 7-8 School (Number of Classrooms)														Proportion of Sample	
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			No.	%
1 - 2	4	100.0	--	--	--	--	--	--	--	--	--	--	100.0%		4	2.8
3 - 4	1	8.3	3	25.0	5	41.7	1	8.3	2	16.7	--	--	100.0		12	8.5
5 - 6	4	16.7	3	12.5	8	33.3	5	20.8	2	8.3	2	8.3	100.0		24	16.9
7 - 8	--	--	6	22.2	3	11.1	7	25.9	5	18.5	6	22.2	100.0		27	19.0
9 - 10	2	6.5	2	6.5	5	16.1	10	32.3	6	19.4	6	19.4	100.0		31	21.8
11+	--	--	1	2.3	4	9.1	8	18.2	6	13.6	25	56.8	100.0		44	31.0
Proportion of Sample	11	7.7	15	10.6	25	17.6	31	21.8	21	14.8	39	27.5			142	100.0

n = 142 Level of Significance = 0.0000

TABLE A13 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING SUPERVISORY OFFICERS FOR K-6 AND 7-8 SCHOOLS

Minimum Size of K-6 School (Number of Classrooms)	Minimum Size of 7-8 School (Number of Classrooms)													
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		No. %
1 - 2	1	50.0	1	50.0	--	--	--	--	--	--	--	--	100.0%	2 1.7
3 - 4	1	4.8	5	23.8	6	28.6	3	14.3	2	9.5	4	19.0	100.0	21 18.1
5 - 6	--	--	1	5.9	4	23.5	3	17.6	4	23.5	5	29.4	100.0	17 14.7
7 - 8	--	--	1	3.1	3	9.4	8	25.0	5	15.6	15	46.9	100.0	32 27.6
9 - 10	--	--	--	--	2	11.8	1	5.9	2	11.8	12	70.6	100.0	17 14.7
11+	--	--	--	--	--	--	1	3.7	2	7.4	24	88.9	100.0	27 23.3
Proportion of Sample	2	1.7	8	6.9	15	12.9	16	13.8	15	12.9	60	51.7		116 100.0

n = 116 Level of Significance = 0.0000

TABLE A14 -- RELATIONSHIP BETWEEN MINIMUM NUMBER OF CLASSROOMS SELECTED BY RESPONDING SUPERVISORY OFFICERS FOR K-8 AND 7-8 SCHOOLS

Minimum Size of K-8 School (Number of Classrooms)	Minimum Size of 7-8 School (Number of Classrooms)													
	1 - 2		3 - 4		5 - 6		7 - 8		9 - 10		11+		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		No. %
1 - 2	1	100.0	--	--	--	--	--	--	--	--	--	--	100.0%	1 0.9
3 - 4	--	--	2	66.7	1	33.3	--	--	--	--	--	--	100.0	3 2.7
5 - 6	1	5.9	4	23.5	7	41.2	2	11.8	1	5.9	2	11.8	100.0	17 15.0
7 - 8	--	--	1	6.7	1	6.7	5	33.3	3	20.0	5	33.3	100.0	15 13.3
9 - 10	--	--	1	4.3	4	17.4	5	21.7	3	13.0	10	43.5	100.0	23 20.4
11+	--	--	--	--	2	3.7	3	5.6	6	11.1	43	79.6	100.0	54 47.8
Proportion of Sample	2	1.8	8	7.1	15	13.3	15	13.3	13	11.5	60	53.1	100.0	113 100.0

n = 113 Level of Significance = 0.0000

TABLE A15 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION OF BOARDS OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Board Characteristic	Minimum Size of K-8 School (Number of Classrooms)							
	1 - 6		7 - 10		11+		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%		No. %
Degree of Urbanization								
Large City Boards	86	17.9	240	49.9	155	32.2	100.0%	481 39.3
County Boards which include a Large City	51	21.7	143	60.8	41	17.4	100.0	235 19.2
County Boards which include a Small City	89	23.5	222	58.6	68	17.9	100.0	379 31.0
County Boards without a City	48	37.5	63	49.2	17	13.3	100.0	128 10.5
Proportion of Sample	274	22.5	668	54.6	281	23.0		1,223 100.0

n = 1,223 Level of Significance = 0.0000

TABLE A16 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION OF BOARDS OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Board Characteristic	Minimum Size of K-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 6		7 - 10		11+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Degree of Urbanization									
Large City Boards	6	12.0	20	40.0	24	48.0	100.0%	50	32.1
County Boards which include a Large City	7	23.5	17	56.6	6	20.0	100.0	30	19.2
County Boards which include a Small City	19	36.5	23	44.3	10	19.2	100.0	52	33.3
County Boards without a City	14	58.3	4	16.7	6	25.0	100.0	24	15.4
Proportion of Sample	46	29.5	64	41.0	46	29.5		156	100.0

n = 156 Level of Significance = 0.0022

TABLE A17 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION OF BOARDS OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Board Characteristic	Minimum Size of 7-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Degree of Urbanization									
Large City Boards	124	27.5	158	35.0	170	37.6	100.0%	452	40.3
County Boards which include a Large City	80	36.6	71	32.4	68	31.0	100.0	219	19.5
County Boards which include a Small City	120	36.0	125	37.5	89	26.7	100.0	334	29.8
County Boards without a City	74	63.8	28	24.1	14	12.1	100.0	116	10.3
Proportion of Sample	398	35.5	382	34.0	341	30.5		1,121	100.0

n = 1,121 Level of Significance = 0.0000

TABLE A18 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION OF BOARDS OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Board Characteristic	Minimum Size of 7-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Degree of Urbanization									
Large City Boards	3	6.3	16	33.3	29	60.5	100.0%	48	32.9
County Boards which include a Large City	4	13.8	14	48.3	11	37.9	100.0	29	19.9
County Boards which include a Small City	13	27.1	15	31.2	20	41.7	100.0	48	32.9
County Boards without a City	6	28.5	12	57.2	3	14.3	100.0	21	14.4
Proportion of Sample	26	17.8	57	39.0	63	43.1		146	100.0

n = 146 Level of Significance = 0.0092

TABLE A19 -- RELATIONSHIP BETWEEN DEGREE OF URBANIZATION OF BOARDS OF RESPONDING SUPERVISORY OFFICERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Board Characteristic	Minimum Size of 7-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Degree of Urbanization									
Large City Boards	6	7.5	14	17.6	60	75.1	100.0%	80	69.0
County Boards which include a Large City	2	11.1	6	33.3	10	55.5	100.0	18	15.5
County Boards which include a Small City	2	15.4	7	53.9	4	30.8	100.0	13	11.7
County Boards without a City	--	--	4	80.0	1	20.0	100.0	5	4.3
Proportion of Sample	10	8.6	31	26.7	75	64.6		116	100.0

n = 116 Level of Significance = 0.0060

TABLE A20 -- RELATIONSHIP BETWEEN SIZE OF BOARD OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Board Characteristic	Minimum Size of K-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 6		7 - 10		11+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Board Size by Elementary Enrolment									
Small (up to 8,000 students)	98	35.8	128	46.7	48	17.5	100.0%	274	22.4
Medium (8,001 to 15,000 students)	71	19.8	233	65.2	53	14.8	100.0	357	29.2
Large (over 15,000 students)	105	17.7	307	51.9	180	30.4	100.0	592	48.4
Proportion of Sample	274	22.5	668	54.6	281	23.0		1,223	100.0

n = 1,223 Level of Significance = 0.0000

TABLE A21 -- RELATIONSHIP BETWEEN SIZE OF BOARD OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Board Characteristic	Minimum Size of K-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 6		7 - 10		11+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Board Size by Elementary Enrolment									
Small (up to 8,000 students)	25	55.6	13	28.9	7	15.6	100.0%	45	28.8
Medium (8,001 to 15,000 students)	11	22.0	26	52.0	13	26.0	100.0	50	32.1
Large (over 15,000 students)	10	16.4	25	41.0	26	42.6	100.0	61	39.1
Proportion of Sample	46	29.5	64	41.0	46	29.5		156	100.0

n = 156 Level of Significance = 0.0020

TABLE A22 -- RELATIONSHIP BETWEEN SIZE OF BOARD OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Board Characteristic	Minimum Size of 7-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Board Size by Elementary Enrolment									
Small (up to 8,000 students)	127	51.0	58	23.2	64	25.7	100.0%	249	22.2
Medium (8,001 to 15,000 students)	115	36.3	139	43.8	63	19.9	100.0	317	28.3
Large (over 15,000 students)	156	28.1	185	33.3	214	38.5	100.0	555	49.5
Proportion of Sample	398	35.5	382	34.0	341	30.5		1,121	100.0

n = 1,121 Level of Significance = 0.0000

TABLE A23 -- RELATIONSHIP BETWEEN SIZE OF BOARD OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Board Characteristic	Minimum Size of 7-8 School (Number of Classrooms)							Proportion of Sample	
	1 - 4		5 - 8		9+		TOTALS		
	No.	%	No.	%	No.	%		No.	%
Board Size by Elementary Enrolment									
Small (up to 8,000 students)	13	34.3	17	44.7	8	21.1	100.0%	38	26.0
Medium (8,001 to 15,000 students)	9	18.8	16	33.3	23	47.9	100.0	48	32.9
Large (over 15,000 students)	4	6.7	24	40.0	32	53.3	100.0	60	41.1
Proportion of Sample	26	17.8	57	39.0	63	43.1		146	100.0

n = 146 Level of Significance = 0.0012

TABLE A24 -- RELATIONSHIP BETWEEN GEOGRAPHIC LOCATION OF BOARD OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-6, K-8, AND 7-8 SCHOOLS

Board Characteristic	Minimum Size of K-6 School (Number of Classrooms)								
	1 - 4		5 - 8		9+		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%		No.	%
Geographic Location									
Northern	56	27.4	106	51.9	42	20.6	100.0%	204	16.2
Southern	193	18.2	644	60.9	221	20.9	100.0	1,058	83.8
Proportion of Sample	249	19.7	750	59.4	263	20.9		1,262	100.0

n = 1,262 Level of Significance = 0.0066

	Minimum Size of K-8 School (Number of Classrooms)								
	1 - 6		7 - 10		11+		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%		No.	%
Northern	62	31.0	97	48.5	41	20.5	100.0%	200	16.4
Southern	212	20.7	571	55.8	240	23.5	100.0	1,023	83.6
Proportion of Sample	274	22.5	668	54.6	281	23.0		1,223	100.0

n = 1,223 Level of Significance = 0.0033

	Minimum Size of 7-8 School (Number of Classrooms)								
	1 - 4		5 - 8		9+		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%		No.	%
Northern	84	45.2	36	19.4	66	35.5	100.0%	186	16.6
Southern	314	33.6	346	37.0	275	29.4	100.0	935	83.4
Proportion of Sample	398	35.5	382	34.0	341	30.5		1,121	100.0

n = 1,121 Level of Significance = 0.0000

TABLE A25 -- RELATIONSHIP BETWEEN TYPE OF BOARD OF RESPONDING SUPERVISORY OFFICERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Board Characteristic	Minimum Size of 7-8 School (Number of Classrooms)							
	1 - 4		5 - 8		9+		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%		No. %
Type of Board								
Public	8	7.5	26	24.1	74	68.5	100.0%	108 93.1
Separate	2	25.0	5	62.5	1	12.5	100.0	8 6.9
Proportion of Sample	10	8.6	31	26.7	75	64.6		116 100.0

n = 116 Level of Significance = 0.0001

TABLE A26 -- RELATIONSHIP BETWEEN SIZE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Size of School at which Teacher was Employed	Minimum Size of K-8 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%	No.	%	No.	%		No. %
1-4 classrooms (up to 100 students)	16	35.6	15	33.3	12	26.7	2	4.4	--	--	100.0%	45 3.7
5-7 classrooms (101 - 150 students)	7	6.1	51	44.3	45	39.1	11	9.6	1	0.9	100.0	115 9.4
8-11 classrooms (151 - 300 students)	26	8.3	68	21.7	185	58.9	31	9.9	4	1.3	100.0	314 25.7
12-18 classrooms (301 - 500 students)	28	7.3	57	15.0	196	51.4	60	15.7	40	10.5	100.0	381 31.2
19 & over classrooms (over 500 students)	21	5.7	29	7.9	196	53.3	92	25.0	30	8.2	100.0	368 30.1
Proportion of Sample	98	8.0	220	18.0	634	51.8	196	16.0	75	6.1		1,223 100.0

n = 1,223 Level of Significance = 0.0

TABLE A27 -- RELATIONSHIP BETWEEN SIZE OF SCHOOL OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Size of School at which Prinicpal was Employed	Minimum Size of K-8 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 Classrooms (up to 100 students)	6	35.3	6	35.3	4	23.5	1	5.9	--	--	100.0%	17	11.0
5-7 Classrooms (101 - 150 students)	2	9.5	10	47.6	7	33.3	2	9.5	--	--	100.0	21	13.5
8-11 Classrooms (151 - 300 students)	7	15.2	15	32.6	16	34.8	8	17.4	--	--	100.0	46	29.7
12-18 classrooms (301 - 500 students)	1	2.4	3	7.1	21	50.0	13	31.0	4	9.5	100.0	42	27.1
19 & over classrooms (over 500 students)	1	3.4	3	10.3	9	31.0	12	41.4	4	13.8	100.0	29	18.7
Proportion of Sample	17	11.0	37	23.9	57	36.8	36	23.2	8	5.2		155	100.0

n = 155 Level of Significance = 0.0000

TABLE A28 -- RELATIONSHIP BETWEEN SIZE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Size of School at which Teacher was Employed	Minimum Size of 7-8 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	24	61.5	6	15.4	7	17.9	2	5.1	--	--	100.0%	39	3.5
5-7 classrooms (101 - 150 students)	36	37.9	27	28.4	24	25.3	7	7.4	1	1.1	100.0	95	8.5
8-11 classrooms (151 - 300 students)	122	42.2	75	26.0	72	24.9	18	6.2	2	0.7	100.0	289	25.8
12-18 classrooms (301 - 500 students)	123	34.5	77	21.6	84	23.5	45	12.6	28	7.8	100.0	357	31.8
19 & over classrooms (over 500 students)	93	27.3	68	19.9	105	30.8	58	17.0	17	5.0	100.0	341	30.4
Proportion of Sample	398	35.5	253	22.6	292	26.0	130	11.6	48	4.3		1,121	100.0

n = 1,121 Level of Significance = 0.0000

TABLE A29 -- RELATIONSHIP BETWEEN SIZE OF SCHOOL OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Size of School at which Principal was Employed	Minimum Size of 7-8 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%	No.	%	No.	%		No. %
1-4 classrooms (up to 100 students)	5	35.7	2	14.3	4	28.6	3	21.4	--	--	100.0%	14 9.6
5-7 classrooms (101 - 150 students)	7	38.9	4	22.2	5	27.8	2	11.1	--	--	100.0%	18 12.3
8-11 classrooms (151 - 300 students)	7	15.9	15	34.1	17	38.6	5	11.4	--	--	100.0	44 30.1
12-18 classrooms (301 - 500 students)	4	10.0	7	17.5	13	32.5	10	25.0	6	15.0	100.0	40 27.4
19 & over classrooms (over 500 students)	3	10.0	2	6.7	12	40.0	9	30.0	4	13.3	100.0	30 20.5
Proportion of Sample	26	17.8	30	20.5	51	34.9	29	19.9	10	6.8		146 100.0

n = 146 Level of Significance = 0.0076

TABLE A30 -- RELATIONSHIP BETWEEN TYPE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Type of School at which Teacher was Employed	Minimum Size of K-8 School (Number of Classrooms)							
	1 - 6		7 - 10		11+		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%		No. %
K-6	96	18.6	274	53.1	146	28.3	100.0%	516 44.6
K-8	124	26.3	263	55.9	84	17.8	100.0	471 40.7
7-8	38	22.3	92	54.1	40	23.5	100.0	170 14.7
Proportion of Sample	258	22.3	629	54.3	270	23.3		1,157 100.0

n = 1,157 Level of Significance = 0.0000

TABLE A31 -- RELATIONSHIP BETWEEN TYPE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Type of School at which Teacher was Employed	Minimum Size of 7-8 School (Number of Classrooms)							
	1 - 4		5 - 8		9+		TOTALS	Proportion of Sample
	No.	%	No.	%	No.	%		No. %
K-6	162	35.2	145	31.5	153	33.2	100.0%	460 43.4
K-8	157	37.5	158	37.7	104	24.8	100.0	419 39.5
7-8	47	25.8	57	31.3	78	42.8	100.0	182 17.2
Proportion of Sample	366	34.5	360	34.0	335	31.6		1,061 100.0

n = 1,061 Level of Significance = 0.0000

TABLE A32 -- RELATIONSHIP BETWEEN SIZES OF SCHOOLS IN WHICH RESPONDING TEACHERS' EXPERIENCE WAS GAINED AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Sizes of Schools in which Teachers' Experience was Gained	Minimum Size of K-8 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12 & over classrooms (over 300 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%		No.	%
Small	3	15.8	11	57.9	4	21.1	1	5.3	100.0%	19	1.6
Medium	14	7.7	49	26.8	103	56.3	17	9.3	100.0	183	15.0
Large	27	6.0	52	11.6	234	52.3	134	30.0	100.0	447	36.5
Small and Medium	13	15.3	25	29.4	40	47.1	7	8.2	100.0	85	7.0
Small and Large	5	8.8	9	15.8	29	50.9	14	24.6	100.0	57	4.7
Medium and Large	22	6.9	57	17.8	160	49.8	82	25.5	100.0	321	26.2
Small, Medium and Large	14	12.6	17	15.3	64	57.7	16	14.4	100.0	111	9.1
Proportion of Sample	98	8.0	220	18.0	634	51.8	271	22.2		1,223	100.0

n = 1,223 Level of Significance = 0.0000

TABLE A33 -- RELATIONSHIP BETWEEN SIZES OF SCHOOLS IN WHICH RESPONDING TEACHERS' EXPERIENCE WAS GAINED AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Sizes of Schools in which Teachers' Experience was Gained	Minimum Size of 7-8 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12 & over classrooms (over 300 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%		No.	%
Small	7	46.7	3	20.0	5	33.3	--	--	100.0%	15	1.3
Medium	70	43.2	45	27.8	34	21.0	13	8.0	100.0	162	14.5
Large	134	32.3	89	21.4	111	26.7	81	19.5	100.0	415	37.0
Small and Medium	44	55.7	16	20.3	15	19.0	4	5.1	100.0	79	7.0
Small and Large	17	37.0	10	21.7	13	28.3	6	13.0	100.0	46	4.1
Medium and Large	82	27.0	72	23.7	92	30.3	58	19.1	100.0	304	27.1
Small, Medium and Large	44	44.0	18	18.0	22	22.0	16	16.0	100.0	100	8.9
Proportion of Sample	398	35.5	253	22.6	292	26.0	178	15.9		1,121	100.0

n = 1,121 Level of Significance = 0.0000

TABLE A34 -- RELATIONSHIP BETWEEN SIZES OF SCHOOLS IN WHICH RESPONDING PRINCIPALS' ADMINISTRATIVE EXPERIENCE WAS GAINED AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Sizes of Schools in which Principals' Experience was Gained	Minimum Size of K-8 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12 & over classrooms (over 300 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%		No.	%
Small	4	33.3	5	41.7	3	25.0	--	--	100.0%	12	7.7
Medium	3	10.7	10	35.7	8	28.6	7	25.0	100.0	28	17.9
Large	1	2.9	3	8.8	14	41.2	16	47.1	100.0	34	21.8
Small and Medium	3	27.3	4	36.4	4	36.4	--	--	100.0	11	7.1
Small and Large	1	20.0	--	--	1	20.0	3	60.0	100.0	5	3.2
Medium and Large	4	7.5	10	18.9	23	43.4	16	30.2	100.0	53	34.0
Small, Medium and Large	1	7.7	5	38.5	5	38.5	2	15.4	100.0	13	8.3
Proportion of Sample	17	10.9	37	23.7	58	37.2	44	28.2		156	100.0

n = 156 Level of Significance = 0.0051

TABLE A35 -- RELATIONSHIP BETWEEN SIZES OF SCHOOLS IN WHICH RESPONDING PRINCIPALS' ADMINISTRATIVE EXPERIENCE WAS GAINED AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Sizes of Schools in which Principals' Experience was Gained	Minimum Size of 7-8 School (Number of Classrooms)											
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12 & over classrooms (over 300 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%		No.	%
Small	5	55.6	2	22.2	1	11.1	1	11.1	100.0%	9	6.2
Medium	7	25.0	8	28.6	11	39.3	2	7.1	100.0	28	19.2
Large	5	15.2	4	12.1	13	39.4	11	33.3	100.0	33	22.6
Small and Medium	1	11.1	2	22.2	5	55.6	1	11.1	100.0	9	6.2
Small and Large	1	20.0	--	--	1	20.0	3	60.0	100.0	5	3.4
Medium and Large	3	6.0	13	26.0	15	30.0	19	38.0	100.0	50	34.2
Small, Medium and Large	4	33.3	1	8.3	5	41.7	2	16.7	100.0	12	8.2
Proportion of Sample	26	17.8	30	20.5	51	34.9	39	26.7		146	100.0

n = 146 Level of Significance = 0.0118

TABLE A36 -- RELATIONSHIP BETWEEN PREFERRED SIZE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Preferred Size of School	Minimum Size of K-8 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	29	32.6	21	23.6	32	36.0	6	6.7	1	1.1	100.0%	89	7.6
5-7 classrooms (101 - 150 students)	13	7.1	71	38.8	86	47.0	10	5.5	3	1.6	100.0	183	15.6
8-11 classrooms (151 - 300 students)	30	6.3	77	16.3	281	59.4	73	15.4	12	2.6	100.0	473	40.3
12-18 classrooms (301 - 500 students)	10	3.1	38	11.9	162	50.9	84	26.4	24	7.5	100.0	318	27.1
19 & over classrooms (over 500 students)	12	10.8	6	5.4	55	49.5	23	20.7	15	13.5	100.0	111	9.5
Proportion of Sample	94	8.0	213	18.1	616	52.5	196	16.7	55	4.7		1,174	100.0

n = 1,174 Level of Significance = 0.0

TABLE A37 -- RELATIONSHIP BETWEEN PREFERRED SIZE OF SCHOOL OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Preferred Size of School	Minimum Size of 7-8 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	58	74.4	7	9.0	10	12.8	3	3.8	--	--	100.0%	78	7.2
5-7 classrooms (101 - 150 students)	71	44.7	43	27.0	36	22.6	8	5.0	1	0.6	100.0	159	14.8
8-11 classrooms (151 - 300 students)	146	33.2	116	26.4	138	31.4	33	7.5	7	1.6	100.0	440	40.9
12-18 classrooms (301 - 500 students)	70	23.8	72	24.5	78	26.5	57	19.4	17	5.8	100.0	294	27.3
19 & over classrooms (over 500 students)	42	39.6	13	12.3	27	25.5	19	17.9	5	4.7	100.0	106	9.8
Proportion of Sample	387	35.9	251	23.3	289	26.8	120	11.1	30	2.8		1,077	100.0

n = 1,077 Level of Significance = 0.0

TABLE A38 -- RELATIONSHIP BETWEEN PREFERRED SIZE OF SCHOOL OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Preferred Size of School	Minimum Size of K-8 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	5	55.6	1	11.1	2	22.2	1	11.1	--	--	100.0%	9	5.9
5-7 classrooms (101 - 150 students)	--	--	6	50.0	4	33.3	2	16.7	--	--	100.0	12	7.8
8-11 classrooms (151 - 300 students)	6	11.1	18	33.3	23	42.6	7	13.0	--	--	100.0	54	35.3
12-18 classrooms (301 - 500 students)	5	7.7	11	16.9	23	35.4	22	33.8	4	6.2	100.0	65	42.5
19 & over classrooms (over 500 students)	--	--	1	7.7	6	46.2	3	23.1	3	23.1	100.0	13	8.5
Proportion of Sample	16	10.5	37	24.2	58	37.9	35	22.9	7	4.6		153	100.0

n = 153 Level of Significance = 0.0000

TABLE A39 -- RELATIONSHIP BETWEEN PREFERRED SIZE OF SCHOOL OF RESPONDING PRINCIPALS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Preferred Size of School	Minimum Size of 7-8 School (Number of Classrooms)												
	1-4 classrooms (up to 100 students)		5-7 classrooms (101 - 150 students)		8-11 classrooms (151 - 300 students)		12-18 classrooms (301 - 500 students)		19 & over classrooms (over 500 students)		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
1-4 classrooms (up to 100 students)	6	100.0	--	--	--	--	--	--	--	--	100.0%	6	4.2
5-7 classrooms (101 - 150 students)	4	40.0	1	10.0	4	40.0	1	10.0	--	--	100.0	10	7.0
8-11 classrooms (151 - 300 students)	4	8.3	14	29.2	22	45.8	6	12.5	2	4.2	100.0	48	33.6
12-18 classrooms (301 - 500 students)	11	16.4	13	19.4	21	31.3	17	25.4	5	7.5	100.0	67	46.9
19 & over classrooms (over 500 students)	--	-	2	16.7	4	33.3	4	33.3	2	16.7	100.0	12	8.4
Proportion of Sample	25	17.5	30	21.0	51	35.7	28	19.6	9	6.3		143	100.0

n = 143 Level of Significance = 0.0001

TABLE A40 -- RELATIONSHIP BETWEEN TYPE OF TEACHING ASSIGNMENT OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF K-8 SCHOOLS

Type of Teaching Assignment	Minimum Size of K-8 School (Number of Classrooms)							
	1 - 6		7 - 10		11+		TOTALS	Proportion of Sample	
	No.	%	No.	%	No.	%		No.	%
Single Grade	86	17.0	290	57.0	132	26.0	100.0%	508	43.3
Mixed Grade	118	30.3	205	52.6	67	17.2	100.0	390	33.2
Rotary	63	22.9	144	52.3	68	24.7	100.0	275	23.4
Proportion of Sample	267	22.7	639	54.5	267	22.8		1,173	100.0

n = 1,173 Level of Significance = 0.0000

TABLE A41 -- RELATIONSHIP BETWEEN TYPE OF TEACHING ASSIGNMENT OF RESPONDING TEACHERS AND THEIR OPINIONS OF MINIMUM ACCEPTABLE SIZE OF 7-8 SCHOOLS

Type of Teaching Assignment	Minimum Size of 7-8 School (Number of Classrooms)									
	1 - 4		5 - 8		9+		TOTALS	Proportion of Sample		
	No.	%	No.	%	No.	%		No.	%	
Single Grade	181	39.2	138	30.0	142	30.8	100.0%	461	42.8	
Mixed Grade	130	39.0	133	39.9	71	21.3	100.0	334	31.0	
Rotary	82	29.0	91	32.2	109	38.7	100.0	282	26.2	
Proportion of Sample	393	36.5	362	33.7	322	29.9		1,077	100.0	

n = 1,077 Level of Significance = 0.0005

TABLE A42 -- LEVEL OF SIGNIFICANCE OF RELATIONSHIPS BETWEEN BOARD CHARACTERISTICS AND INDIVIDUAL CHARACTERISTICS OF THREE GROUPS OF RESPONDENTS

Board Characteristic	Individual Characteristic								
	Formal Education			Years of Experience			Range of Experience		
	Teachers	Principals	Supervisory Officers	Teachers	Principals	Supervisory Officers	Teachers	Principals	Supervisory Officers
Degree of Urbanization	0.0000	0.0482	0.2183	0.5758	0.2202	0.2635	0.0	0.0004	0.0018
Size	0.0000	0.0009	0.3022	0.3973	0.4407	0.5356	0.0	0.0000	0.0128
Geographical Location (North/South)	0.0037	0.4758	0.6508	0.8387	0.9187	0.5930	0.0000	0.0020	0.0221
Type (Public/Separate)	0.0000	0.0461	0.8358	0.3887	0.4637	0.2680	0.0000	0.0506	0.0000

TABLE A43 -- LEVEL OF SIGNIFICANCE OF RELATIONSHIPS BETWEEN BOARD CHARACTERISTICS AND VARIOUS INDIVIDUAL CHARACTERISTICS OF PRINCIPALS AND TEACHERS

Board Characteristic	Individual Characteristic			
	Principals	Teachers		
	Whether Teaching Part-time	Teaching Certificate	Type of Assignment (Single/Mixed/Rotary)	Grade Levels Taught
Degree of Urbanization	0.0000	0.0000	0.0000	0.5979
Size	0.0014	0.0000	0.0000	0.6727
Geographical Location (North/South)	0.2210	0.0014	0.0010	0.1141
Type (Public/Separate)	0.6078	0.0000	0.4079	0.3743

TABLE A44 -- LEVEL OF SIGNIFICANCE OF RELATIONSHIP BETWEEN SCHOOL CHARACTERISTICS AND INDIVIDUAL CHARACTERISTICS OF TEACHERS AND PRINCIPALS

Individual Characteristic	School Characteristic			
	Type		Enrolment Range	
	Teachers	Principals	Teachers	Principals
Teaching Certificate	0.0009	n/a	0.0000	n/a
Academic Qualifications	0.0000	0.1503	0.0054	0.0000
Years of Experience	0.2655	0.5584	0.1344	0.4504
Range of Experience	0.0004	0.0414	0.0	0.0
Teaching Assignment (Single/Mixed/Rotary)	0.0	n/a	0.0	n/a
Grade Levels Taught	0.0	n/a	0.0000	n/a
Teaching Part-Time or Regular Basis	n/a	0.1132	n/a	0.0000

TABLE A45 -- LEVEL OF SIGNIFICANCE OF RELATIONSHIP BETWEEN PREFERRED SIZE OF TEACHERS AND PRINCIPALS AND VARIOUS BOARD, SCHOOL, AND INDIVIDUAL CHARACTERISTICS

	Preferred Size	
	Teachers	Principals
Board Characteristics		
Degree of Urbanization	0.0	0.0005
Size	0.0000	0.0122
Geographical Location (North/South)	0.0000	0.1967
Type (Public/Separate)	0.0000	0.0013
School Characteristics		
Enrolment Range	0.0	0.0000
Type	0.0082	0.0535
Individual Characteristics		
Teaching Certificate	0.0009	n/a
Academic Qualifications	0.0013	0.0000
Years of Experience	0.3712	0.1519
Range of Experience	0.0	0.0000
Teaching Assignment (Single/Mixed/Rotary)	0.0000	n/a
Grade Levels Taught	0.0015	n/a
Teaching Part-Time or Regular Basis	n/a	0.0020

Minimum Size Questionnaire (Teachers)

Parallel questionnaires for principals and superintendents, in English, and for teachers and principals in French, are available on microfiche from the Ontario Government Bookstore in an addendum to the microfiche copy of this report.

MINIMUM SIZE QUESTIONNAIRE (Teachers)

1. Please indicate the teaching certificate you presently hold.

Standard I	( )
Standard II	( )
Standard III	( )
Standard IV	( )
Other (please specify)_____	( )

2. Do you have a specialist certificate?

Yes	( )
No	( )

3. Which of the following best describes your qualifications?

(a) less than a B.A.	( )
(b) B.A. (Pass or Honours) or equivalent	( )
(c) more than a B.A., but less than M.A. or M.Ed.	( )
(d) M.A., M.Ed., or higher	( )

4. Please state the number of complete years of teaching experience you will have in June, 1975. _____

5. (a) Do you spend more than 50% of your time

(i) teaching the same class ( )

(ii) teaching a subject ( )

(b) If neither a-i nor a-ii describes your duties, please specify your main function in the school:

_____

_____

(c) Circle appropriate number(s) to indicate the grade(s) that you presently teach:

JK K 1 2 3 4 5 6 7 8 9 10

6. For each type of school (including the present one) in which you have taught, check the appropriate box in the table below to indicate the number of operating classrooms at the time you were teaching there. Approximate enrolment is indicated in brackets.

If you have taught in more than one school of the same type, but with a different number of operating classrooms, please indicate by checking the appropriate number of boxes.

TYPE OF SCHOOL	NUMBER OF OPERATING CLASSROOMS				
	1-4 (under 100 students)	5-7 (101-150 students)	8-11 (151-300 students)	12-18 (301-500 students)	19 or over (over 500 students)
JK/K - 6					
JK/K - 8					
7 - 8					
Other (please specify)					

7. In recent years, many elementary schools in Ontario have been experiencing declining enrolment. This situation has caused concern to educators some of whom claim that when a school declines below a particular size, it can no longer provide quality education for its students.

In your opinion, what is the minimum size (number of operating classrooms) at which a school can still provide quality education for its students? Because the minimum size you select may vary for different types of schools, please specify for each of the following three types.

TYPE OF SCHOOL	MINIMUM NUMBER OF OPERATING CLASSROOMS (assume an average class size of 30)
JK/K - 6	
JK/K - 8	
7 - 8	

8. Since your reasons for selecting a minimum size may differ for each type of school, three tables are provided in this question, one for each type (JK/K-6, JK/K-8, 7-8). Please complete all three tables.

(a) Indicate by a check in column (a) those conditions from the list below that you expect to occur in schools that fall below the minimum size you have specified.

(b) Indicate in column (b) whether you consider the conditions you checked in (a) to be a disadvantage.

(c) Indicate by a check in column (c) those disadvantages that influenced your selection of a minimum size.

JK/K - 6 SCHOOL

CONDITION	column (a) LIKELY TO OCCUR BELOW MINIMUM SIZE	column (b) DISADVANTAGE	column (c) INFLUENCED YOUR DECISION ON MINIMUM SIZE
lack of special skills (e.g. music) among teachers on staff			
inadequate opportunity for teacher interaction and professional development			
low teacher morale			
high proportion of mixed grades			
principal teaching part-time			
sharing a principal with another school			
lack of a librarian and staffed resource centre			
low student morale			
few opportunities for extra-curricular activities			
(other please specify)			

JK/K - 8 SCHOOL

CONDITION	column (a) LIKELY TO OCCUR BELOW MINIMUM SIZE	column (b) DISADVANTAGE	column (c) INFLUENCED YOUR DECISION ON MINIMUM SIZE
lack of special skills (e.g. music) among teachers on staff			
inadequate opportunity for teacher interaction and professional development			
low teacher morale			
high proportion of mixed grades			
principal teaching part-time			
sharing a principal with another school			
lack of a librarian and staffed resource centre			
low student morale			
few opportunities for extra-curricular activities			
(other please specify)			

7 - 8 SCHOOL

CONDITION	column (a) LIKELY TO OCCUR BELOW MINIMUM SIZE	column (b) DISADVANTAGE	column (c) INFLUENCED YOUR DECISION ON MINIMUM SIZE
lack of subject specialists on staff			
inadequate opportunity for teacher interaction and professional development			
low teacher morale			
high proportion of mixed grades			
principal teaching part-time			
sharing a principal with another school			
lack of a librarian and staffed resource centre			
low student morale			
few opportunities for extra-curricular activities			
(other please specify)			

10. Rate the value of each of the possible actions listed below as methods of offsetting disadvantages that might occur as a school declines in enrolment and approaches minimum size.

	LITTLE OR NO VALUE	MODERATE VALUE	CONSIDERABLE VALUE
ensure that teachers collectively have as many of the specialties as possible			
use itinerant or part-time teachers to supply missing expertise			
decrease class size			
increase the time central office consultants spend in the school			
provide extra resources so that an effective learning materials centre can be maintained			
make greater than average use of teacher aides			
call upon the expertise of volunteers from the community			

11. Rank in order of importance the five factors from the list below that would most influence your decision if you were given a free choice to teach in any school. (Use 1 as the most important.)

	RANK
Ability range of students you would be teaching	( )
Age range of students you would be teaching	( )
Class size	( )
Compatibility of staff	( )
Distance from residence to school	( )
Facilities at the school e.g. library, gym, resource centre, home ec., shop rooms	( )
Principal	( )
Proportion of students bused to school	( )
School size	( )
Traditional vs. Open Plan	( )
Type of neighbourhood in which school is located	( )

12. Assuming all other factors were equal, in which <u>one</u> of the following schools would you choose to teach?

(a) 1-4 operating classrooms (under 100 students) ( )

(b) 5-7 operating classrooms (101-150 students) ( )

(c) 8-11 operating classrooms (151-300 students) ( )

(d) 12-18 operating classrooms (301-500 students) ( )

(e) 19 or over operating classrooms (over 500 students) ( )

3 Relationships Between Elementary School Size and Cost per Pupil

SOME FINANCIAL IMPLICATIONS OF DECLINING ENROLMENT

Because of the nature of the general legislative grants to school boards in Ontario there is no automatic decline in costs to a local school board with decline in enrolment from one school year to the next. If all staffing ratios are maintained in the face of declining enrolment and costs of school supplies and other non-personnel costs related to schools are held at the pre-decline per-pupil level, the savings will accrue entirely to the province as a whole, either as less drain on the Consolidated Revenue Fund or spread out to provide slightly higher grants to all boards. This is true because the local mill rate to provide the local share of the recognized ordinary expenditure (ROE) is a function of ROE *per pupil* and *not* of total ROE. This, in turn, means that, if it is *not* possible to maintain the same staffing ratios and non-personnel unit costs in the face of enrolment decline, per-pupil cost will rise independently of inflationary cost increases, and the local tax rate will rise as a direct result of the decline.

One of the inevitable results of declining enrolment is a decrease in the size of schools. If it can be shown that small schools cost more to operate than large schools because of increased staffing ratios and unit non-personnel costs, a reason will have been found for a cost-per-pupil increase attributable to declining enrolments.

THE COST-PER-PUPIL STUDY

It was decided to initiate a study of the components of cost per pupil in a representative sample of elementary schools in Ontario in an effort to answer two questions:

This chapter was written by the principal investigator. Lindsay Shanahan selected the sample of schools and coded the questionnaires. Christine Sylvester supervised computer operations and developed some of the tables.

1. Is there a size of school below which cost per pupil is so much greater than above it that the operation of such a school becomes uneconomical?
2. What are the major reasons for higher cost per pupil (if any) in small schools?

It was further decided that, since only a relatively small sample of schools (250 out of a total of 4,017 -- 6.22%) was to be used it would be wise to control for differences in salary levels caused by (a) experience, (b) qualifications, and (c) differences in salary scales.

The questionnaire that was devised, therefore, did not ask for actual salaries of principals, vice-principals, teachers, secretaries, and custodians, but asked instead the number of full-time-equivalent (FTE) persons working in the school in each of these categories. In the case of principals, vice-principals, and principal's assistants, information was sought on the average percentage of time per week spent in teaching so that the time of these persons (and hence their cost) could be split between administration and teaching. Rough approximations of provincial average salaries for the various categories of personnel were then used for all schools. The average-salary figures used in the study were as follows:

Principals	A (September enrolment 500+)	$25,000
	B (September enrolment <500)	24,000
Vice-principals		19,000
Principal's Assistants		15,500
Classroom teachers		15,000
Special-education teachers		16,000
Teaching Assistants		7,500
Secretaries - Typists		8,000
Custodians		9,500

For the whole personnel sector of school costs, then, what is really being looked at is staffing ratios and how they change with decreasing size of school. Implicit in this method is the assumption that levels of service in terms of experience and qualifications of administrative, instructional, secretarial, and custodial personnel are similar in all schools whether large or small.

In establishing the size of schools for purposes of the study, "pupils per grade" rather than "September enrolment" was the basis used, because of the recent adoption by the Ministry of Education of "pupils per grade" as a measuring device for small schools for the purpose of assigning weighting factors to such schools for grant purposes. The change was made because of the belief that a K-6 school of 140 pupils does not pose as great problems as does a similar-sized K-8 school.

THE SAMPLE

Twenty-four school boards in Ontario, representing urban and rural areas, northern and southern Ontario, public- and separate-school systems, and a range of sizes according to elementary school population, were selected for participation in this study. An additional major consideration in the selection of boards was their ability to provide a breakdown of costs at the school level.

From these 24 boards, 250 schools of varying sizes were selected for cost analysis. Size was determined by the number of pupils per grade and five groupings on this basis were established: 1-15, 16-30, 31-45, 46-60, and over 60.

Two questionnaires were prepared: one for completion by the school principal, and one by the board office (see Appendix, pages 166-175). The questionnaires were mailed to the board office for distribution to the sample schools and returned to the researchers via the board office. Completed questionnaires were received from 227 schools and from 24 boards. Three of the returned questionnaires did not provide sufficient information for inclusion in the analysis, and the situation in a fourth school was so unique that it was decided its inclusion would distort the results. This reduced the usable returns to 223. Later it was decided not to use the seven senior elementary schools (Grades 7-8) in the analysis since their cost-per-pupil patterns differed substantially from those of K-6 and K-8 schools and since the number of such schools in the sample was too small to make a separate analysis of them meaningful. This reduced the usable returns to 216. Pupils per grade was calculated in the following way: the enrolment of Kindergarten and Junior Kindergarten pupils was divided by two unless the questionnaire indicated that either or both of these classes were full time. Junior Kindergarten and Kindergarten, or Kindergarten alone, were counted as one grade in determining pupils per grade. Thus a school with 400 pupils in 1-8 and 100 pupils in half-time JK/K would have had its pupils per grade calculated as follows: PPG = $\frac{50 + 400}{9}$ = 50, while a K-6 school with a morning Kindergarten of 20 and a 1-6 enrolment of 120 would have had PPG = $\frac{10 + 120}{7}$ = 18.57 pupils per grade.

Table 31 shows the number and percent of the responding schools in each of the orginial five size categories based on pupils per grade.

TABLE 31 -- NUMBER AND PERCENT OF SAMPLE SCHOOLS IN EACH OF FIVE SIZE CATEGORIES (PPG)

Size (pupils per grade)	Number	Percent
up to 15	33	15.3
16 - 30	61	28.2
31 - 45	46	21.3
46 - 60	43	19.9
over 60	33	15.3
	216	100.0

It will be noted that the number in each size category varies from the 20 percent that was originally intended for each category. This variation results from the less-than-complete returns and the decision to eliminate eleven schools as noted above, and also from the fact that some school sizes changed between the sample selection and the arrival of the questionnaire in the school (the sample was selected using published data for September 1974, whereas the questionnaires were distributed during the school year 1975-76).

Table 32 shows the distribution of the 216 schools by school size in intervals of 100 pupils of full-time equivalent (FTE) enrolment. It is to be noted that 56% of the schools were smaller than 300 pupils of FTE enrolment and that 33.8% were smaller than 200 pupils.

Table 33 shows the distribution of the 216 schools according to varying grade combinations. It is to be noted that the schools are split reasonably well between K-6 and K-8 schools.

Table 34 shows the distribution of the 216 schools according to several board characteristics: degree of urbanization, size, type, and geographical location.

TABLE 32 -- NUMBER AND PERCENT OF SAMPLE SCHOOLS OF VARIOUS SIZES ACCORDING TO FULL-TIME EQUIVALENT ENROLMENT

Size (FTE students)	Number	Percent
up to 99 students	29	13.4
100 - 199	44	20.4
200 - 299	48	22.2
300 - 399	38	17.6
400 - 499	25	11.6
500 - 599	11	5.1
600 - 699	10	4.6
700 - 799	8	3.7
800 +	3	1.4
	216	100.0

TABLE 33 -- NUMBER AND PERCENT OF SAMPLE SCHOOLS OF VARYING GRADE COMBINATIONS

Grade Combination	Number	Percent
K- : (includes JK-6, 1-6, K-5)	111	51.4
K-8: (includes JK-8, 1-8)	102	47.2
Other	3	1.4
	216	100.0

TABLE 34 -- NUMBER AND PERCENT OF SAMPLE SCHOOLS IN BOARDS WITH VARYING CHARACTERISTICS

Board Characteristic	Number	Percent
Degree of Urbanization		
Large City Boards	90	41.7
Boards which include a Large City	67	31.0
Boards which include a Small City	28	12.9
Boards without a City	31	14.4
	n = 216	100.0
Size		
Small (up to 8,000 students)	42	19.4
Medium (8,001 to 15,000 students)	60	27.8
Large (over 15,000 students)	114	52.8
	n = 216	100.0
Type		
Public	169	78.2
Separate	47	21.8
	n = 216	100.0
Geographic Location		
Southern	177	81.9
Northern	39	18.1
	n = 216	100.0

THE QUESTIONNAIRES

Some comments follow concerning the two questionnaires which are included in an Appendix to this chapter.

The Principals' Questionnaire

1. Item 4(f) was used to determine whether or not to divide the enrolment in 4(a) by two when calculating FTE enrolment.
2. Note that non-integrated special-education enrolment was asked for. It was felt that a small school to which special-education students were bused from other attendance areas might distort the staffing ratio in a small school and hence the cost per pupil. This topic will be discussed later in the report (see page 129).
3. Item 5 was included to make it possible to break down principals' and vice-principals' time into administrative and teaching components.
4. Item 7(a)(ii) elicited the only usable information concerning personnel other than fully in-school personnel.
5. The information asked for in item 7(c) was not used since there was very little obtained.
6. The time of teacher aides was included in the category of "teaching," for purposes of the study.
7. Item 9 was asked of both the principals and the board administration. The replies were so divergent and so spotty that it was decided to eliminate this board-level cost from the study.
8. Item 11 presented difficulties in coding. Some principals grouped one or more of the following sub-items with "consumable supplies": physical education supplies, music supplies, art supplies, A/V supplies, and office supplies. It was decided, therefore, to group these six supply items under the heading "supplies." The remaining sub-items were called "miscellaneous" but are chiefly composed of expenditures for text-books, library books, and reference materials.
9. Sub-item *(l)* of item 11 (supply teachers) was ignored since the data were too spotty and inconsistent to usefully include.

The Board Data Sheet

The director of education of each of the 24 participating boards received one copy of the data sheet for each sample school in the board's jurisdiction, with the school name already filled in (see Appendix, page 173).

Item 3 or 4 was used to determine the FTE of custodians assigned to the school, while items 5 through 9 were totalled to find the annual cost of maintenance and operation exclusive of custodians' salaries.

As explained earlier, the information gained from items 11 and 12 was judged not usable -- many boards were unable to make an estimate, and others divided the man hours per month of supervisory and consultant personnel by the total board enrolment to arrive at an estimate. This, of course, defeated the purpose of the question, which was to determine whether smaller schools utilize more or less time of central-office personnel on a per-pupil basis than do larger schools.

Item 13 enabled the researcher to determine the percentage bused to each school. No use is made of this information in this report, but it may form the basis for some further analysis.

PROCEDURE

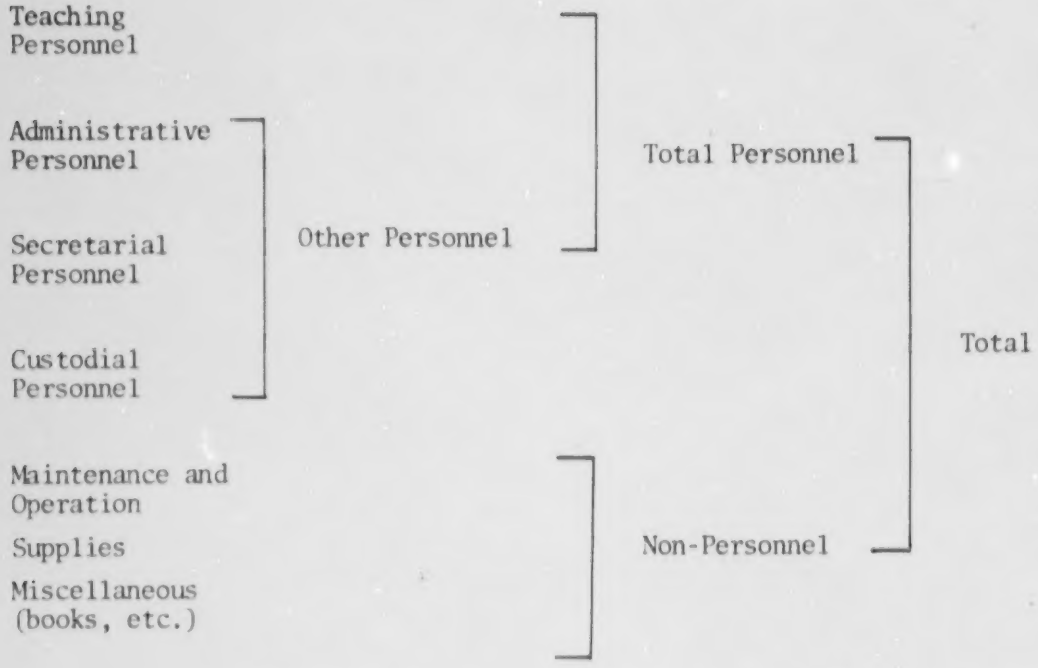
Coding

From the returned questionnaires and data sheets the following information was calculated and coded for each school.

1. FTE September enrolment
2. pupils per grade (PPG)
3. FTE of principals engaged in administration
4. FTE of principals engaged in teaching
5. FTE of vice-principals engaged in administration
6. FTE of vice-principals engaged in teaching
7. FTE of regular classroom teachers
8. FTE of special-education teachers
9. FTE of paid teacher aides
10. FTE of secretarial help
11. FTE of custodians/cleaners (based on 160 hrs./mo. = 1 FTE custodian)
12. annual cost of school supplies (consumable, physical education, music, art, A/V, and office)
13. annual amount of other school-based non-personnel expenditure (library and text books, reference materials, special-education supplies, field trips, and other)
14. annual cost of maintenance and operation of building and grounds (excluding custodians' salaries and renovations and additions, but including custodial supplies, heat, light, telephone, and regular maintenance).

A computer program was devised to calculate the per-pupil cost (using the average salary figures shown on page 156) in each of the following subcategories and group them into the indicated major categories.

Cost Categories and Subcategories



The per-pupil costs of the schools in these categories and subcategories were grouped in three ways.

First, a distribution was prepared based on school size using the ranges used in Table 32 -- 100 pupils of FTE enrolment. The results of this analysis indicated that the diseconomies of scale were confined to the schools under 300 pupils. In an effort to pin-point more precisely the point, if any, where costs per pupil begin to increase rapidly with decreasing size, another distribution was made by groups of 20 pupils for all schools under 300 pupils.

To test the hypothesis that pupils per grade may be a better measure of diseconomies of scale than pupils per school a third distribution was made using intervals of five pupils per grade up to the point where 60 pupils per grade was reached.

The Special-Education Problem

The special-education enrolment as a percentage of total enrolment was calculated and it was found that 84 of the 216 boards had special-education enrolments ranging from less than 1 percent to over 39 percent of total enrolment. Of these, 14 had special-education enrolments that were 10

percent or more of their total enrolment. A way was sought to eliminate the special-education costs from the 84 schools so as to see if such costs in small schools distorted the per-pupil costs. It was easy enough to eliminate the reported special-education enrolment and reported special-education teachers, but many schools reported the former and not the latter. In addition, all other school costs (administrative, secretarial, custodial, and operational costs, and costs for school supplies) would have to be spread over the remaining pupils, increasing the per-pupil costs.

It was therefore decided to run all of the distributions a second time using only the 202 schools in which reported special-education enrolment was less than 10 percent of total enrolment.*

THE RESULTS

The Distribution Based on FTE Enrolment by 100's

Tables 35 and 36 show the breakdown of per-pupil costs by the five categories, using both populations, and based on 100 FTE enrolment ranges.

It will be noted (by comparing the columns "number of schools" in the two tables) that the 14 schools removed in Table 36 were distributed over six of the nine class intervals and that in almost every case their removal lowered the average cost per pupil of the schools in those class intervals. The exceptions were all in the non-personnel category (cf. class intervals 100-199 and 600-699).

It was then decided to examine these differences more closely to determine whether or not, for the purposes of the study, the differences were so unevenly distributed as to invalidate any conclusions made on the basis of the total sample. This was done by converting the dollars in Tables 35 and 36 into indexes based on the cost per pupil for the schools in the 800+ class interval. This figure was used for two reasons:

1. it does not vary from Table 35 to Table 36 (none of the schools had 10 percent or more of its enrolment in special-education classes);
2. while there were only three schools in the 800+ class interval, the standard deviation of their distribution was much lower than that of the mean (e.g. the standard deviation of the 800+ cell for the distribution of total cost per pupil was 74 as opposed to 266 for the mean of all 216 schools -- a coefficient of variability of 7.8 as opposed to one of 33.7).

*We are thus dealing with two populations of schools -- the A populations consisting of all 216 schools and the B populations consisting of the 202 schools having special-education enrolment less than 10% of total enrolment.

TABLE 35 -- RELATIONSHIP BETWEEN PER-PUPIL COSTS IN FIVE CATEGORIES AND SIZE OF SCHOOL BY CLASS INTERVALS OF 100 PUPILS, FOR ALL SCHOOLS IN THE SAMPLE

Size of School	Number of Schools	Cost Per Pupil of FTE Enrolment				
		Teaching Personnel	Other Personnel	Total Personnel	Non-Personnel	Total
0 - 99	29	$922	$274	$1,196	$147	$1,343
100 - 199	44	781	234	1,015	115	1,130
200 - 299	48	704	163	867	91	958
300 - 399	38	716	151	867	81	948
400 - 499	25	668	136	804	77	881
500 - 599	11	671	141	812	78	891
600 - 699	10	703	142	845	78	923
700 - 799	8	687	127	814	84	898
800 +	3	724	131	855	88	944
Mean		745	183	928	98	1,027
n = 216						

TABLE 36 -- RELATIONSHIP BETWEEN PER-PUPIL COSTS IN FIVE CATEGORIES AND SIZE OF SCHOOL BY CLASS INTERVALS OF 100 FTE PUPILS, FOR SCHOOLS HAVING FEWER THAN 10 PERCENT OF THEIR PUPILS IN SPECIAL-EDUCATION CLASSES

Size of School FTE Enrolment	Number of Schools	Cost Per Pupil of FTE Enrolment				
		Teaching Personnel	Other Personnel	Total Personnel	Non-Personnel	Total
0 - 99	25	$910	$273	$1,183	$144	$1,327
100 - 199	42	774	231	1,005	116	1,121
200 - 299	44	693	161	854	90	944
300 - 399	36	714	150	864	80	943
400 - 499	25	668	136	804	77	881
500 - 599	11	671	141	812	78	891
600 - 699	9	698	139	837	78	915
700 - 799	7	665	125	790	80	870
800 +	3	724	131	855	88	944
Mean		736	180	916	97	1,013

n = 202

Table 37 displays the resulting indexes side by side. From an examination of Table 37 it may be seen that including the schools with 10 percent or more of their enrolment in special-education classes makes but slight difference in determining the point at which cost per pupil begins to rise substantially with decreasing school size.

It is obvious that for total in-school cost the breaking point (based on 100-pupil class intervals) is at 200 pupils. While schools with between 200 and 299 FTE pupils cost only 1 percent more than schools with 800 or more pupils, schools with between 100 and 199 FTE pupils cost 19 to 20 percent more and schools with fewer than 100 FTE pupils cost 41 or 42 percent more than schools with more than 800 FTE pupils.

Further Analysis of the Distribution by Hundreds

The use of indexes is a better way to compare cost increases than is looking solely at the raw per-pupil figures in Tables 35 and 36. From the "A" columns in Table 37 we can see what the main elements contributing to the higher total cost below 200 pupils are: it is "other personnel" costs (administrative, custodial, and secretarial) and "non-personnel" costs that are farthest above the base line. "Other personnel" cost is 79 percent and 109 percent more costly in the 100-199 and 0-99 ranges respectively than the base in the over-800 range. "Non-personnel" cost is 31 and 67 percent above the base while teaching cost is only 8 percent and 27 percent above. This table seems to show, then, that classroom teaching costs do not begin to rise dramatically until the FTE enrolment has dropped below 100. For "other personnel" the cutoff point seems to be 400 pupils (at least a 15 percent increase above the base line below that size). For "non-personnel" expenses the break point is at 200 pupils.

It is important to remember when looking at this table of indexes that the various categories are not equally important in accounting for the total cost per pupil. For the mean of the 216 schools represented in Table 35, the respective percentage breakdowns are: Teaching 72.6%, Other Personnel 17.8%, Total Personnel 90.4%, and Non-Personnel 9.6%. Thus a 27 percent increase in teaching cost is greater in actual dollars than a 109 percent increase in "other personnel" costs. This may be seen by looking back at Table 35 on which the percentage indexes are based. Teaching costs are $198 per pupil higher in the average school of less than 100 pupils than in the average school of 800+ pupils although only 27 percent higher. On the other hand "other personnel" costs, though up 109 percent, are only $143 dollars per pupil higher.

TABLE 37 -- INDEXES OF COST PER PUPIL IN FIVE CATEGORIES, COMPUTED FROM TABLES 35 AND 36 USING THE FIGURES FOR THE 800+ CLASS INTERVAL AS THE BASE OF 100

Size of School	Number of Schools		Teaching Personnel		Other Personnel		Total Personnel		Non-Personnel		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
0 - 99	29	25	127	126	209	208	140	138	167	164	142	141
100 - 199	44	42	108	107	179	176	119	118	131	132	120	119
200 - 299	48	44	97	96	124	123	101	100	103	102	101	101
300 - 399	38	36	99	99	115	115	101	101	92	91	100	100
400 - 499	25	25	92	92	104	104	94	94	88	88	93	93
500 - 599	11	11	93	93	108	108	95	95	89	89	94	94
600 - 699	10	9	97	96	108	106	99	98	89	89	98	97
700 - 799	8	7	95	92	97	95	95	92	95	91	95	92
800 +	3	3	100	100	100	100	100	100	100	100	100	100

A = Indexes for all schools in the sample, n = 216.

B = Indexes for schools with fewer than 10 percent special education, n = 202.

Chart 1 is a graphical representation of the data in Table 35. Each column shows "teaching cost" per pupil, "other personnel cost" (the total of these two making up the total personnel cost), and "non-personnel cost." Each full column thus represents the total cost per pupil in schools of different size categories.

Table 8 and Chart 2 show the breakdown of "other personnel" cost per pupil. From the means of the 216 boards it is calculated that the components of "other personnel" costs per pupil were as follows: administrativ , 45.3%; custodial, 40.3%; and secretarial, 14.4%. Although secretarial personnel account for only 14.4% of "other personnel" cost they are 150 percent and 186 percent higher than the 800+ base in the 100-199 and 0-99 size ranges respectively. The corresponding figures for administrative personnel are 121 percent and 152 percent, and for custodial personnel only 36 percent and 64 percent.

It has been noted above that "other personnel" cost per pupil has a cut-off point at the 300-pupil level; Table 38 shows that the cut-off point is at the same level for the administrative and secretarial components, but is at 300 pupils for the custodial component. These findings are graphically displayed in Chart 2. The chart shows that while schools between 200 and 399 have higher administrative costs per pupil than do schools larger than 400 pupils the really large increases do not occur until the size falls below the 200-pupil level. This may also be noted from Table 38. While the 300-399 and 200-299 size groups are respectively only 44 and 50 percent higher than the base, the 100-199 and 0-99 size groups are respectively 121 and 152 percent above the base.

Table 39 and Chart 3 show the breakdown of "non-personnel" costs per pupil. The three components of "non-personnel" cost per pupil contribute on the average (calculated from the means): Maintenance and Operation, 65.3%; Supplies, 19.4%; and Miscellaneous (books, etc.), 15.3%. It is apparent that "maintenance and operations" cost is by far the major contributor to establishing the break point for "non-personnel" expenditure at the 200-pupil-level. Not only is it the only one of the three components that shows a clear relationship to size of school (16 percent higher than the base at the 200-299-pupil level, 58 percent higher at the 100-199-pupil level, and 118 percent higher at the 0-99-pupil level) it also accounts for over 65 percent of non-personnel cost per pupil. The other two components -- essentially the principals' budget -- show no reliable pattern. It appears from this study that it costs no more per pupil to provide supplies and books in a small school than in a large one.

CHART 1 -- TOTAL IN-SCHOOL OPERATING COST PER PUPIL

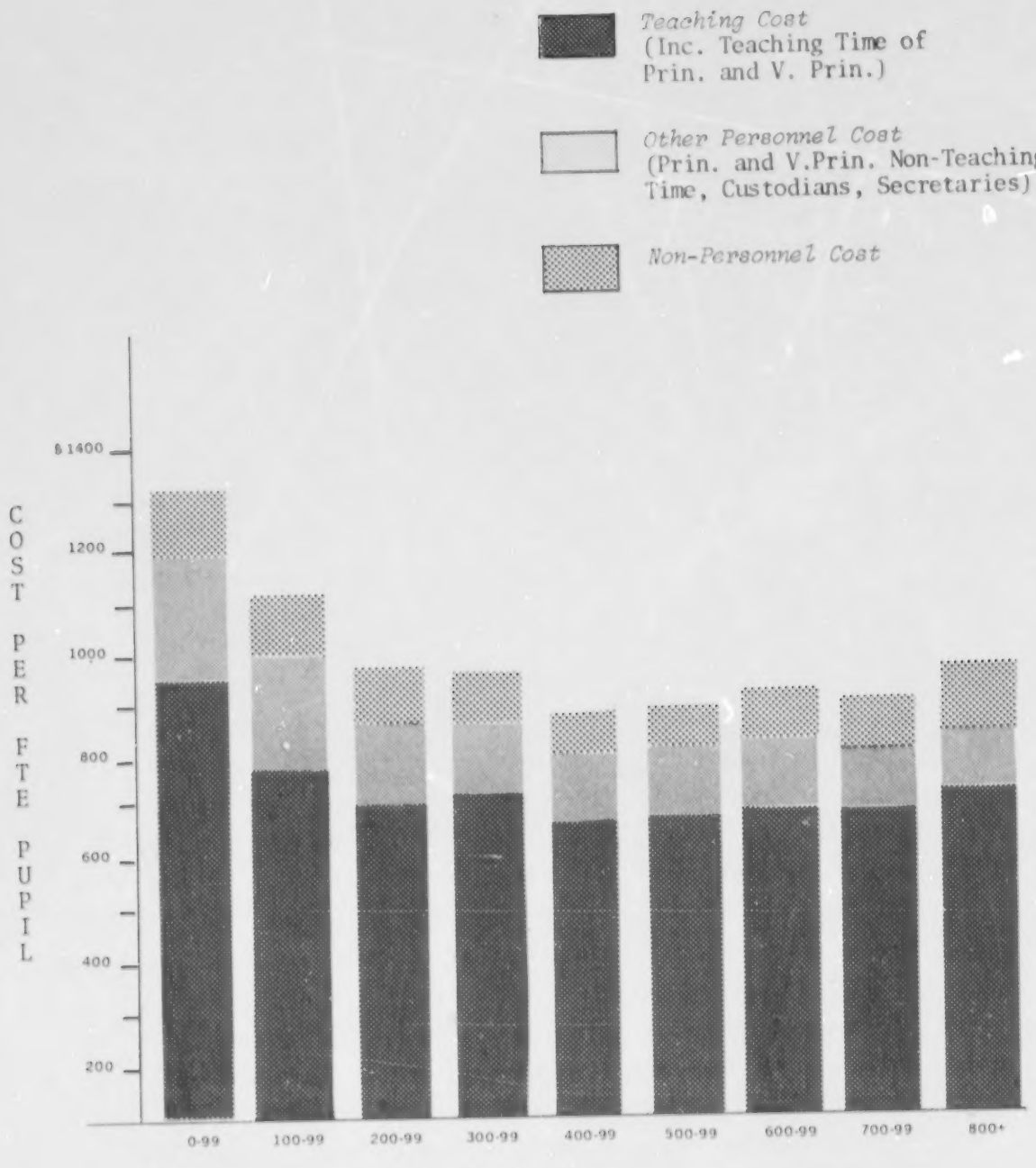


Table 38 -- ANALYSIS OF 'OTHER-PERSONNEL' COST PER PUPIL FOR ALL SAMPLE SCHOOLS, IN CLASS INTERVALS OF 100 FTE PUPILS, WITH INDEXES BASED ON 800+

Size of School	Number of Schools	Administration		Custodial		Secretarial		Total	
		$/pupil	Index	$/pupil	Index	$/pupil	Index	$/pupil	Index
0 - 99	29	121	252	113	164	40	286	274	209
100 - 199	44	106	221	94	136	35	250	234	179
200 - 299	48	72	150	68	99	23	164	163	124
300 - 399	38	69	144	59	86	22	157	151	115
400 - 499	25	62	129	56	81	19	136	136	104
500 - 599	11	64	133	58	84	20	143	142	108
600 - 699	10	59	123	63	91	20	143	142	108
700 - 799	8	55	115	56	81	17	121	127	97
800 +	3	48	100	69	100	14	100	131	100
Mean		82		73		26		181	

CHART 2 -- OTHER PERSONNEL COST PER PUPIL

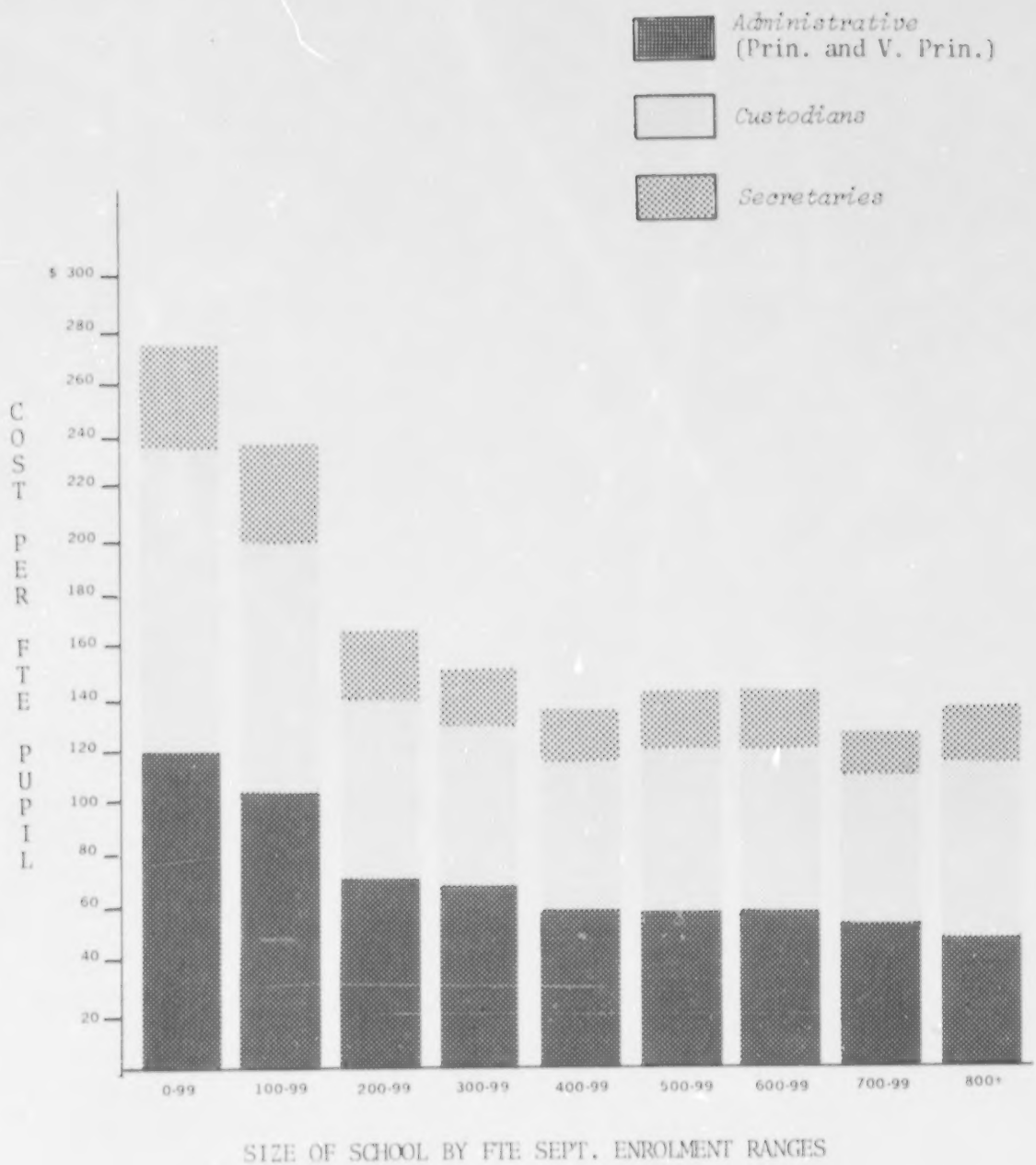


TABLE 39 -- ANALYSIS OF 'NON-PERSONNEL' COST PER PUPIL FOR ALL SAMPLE SCHOOLS IN CLASS INTERVALS OF 100 FTE PUPILS WITH INDEXES BASED ON 800+

Size of School	Number of Schools	Maintenance and Operations		Supplies		Miscellaneous (books, etc.)		Total	
		$/pupil	Index	$/pupil	Index	$/pupil	Index	$/pupil	Index
0 - 99	29	109	218	23	110	16	89	147	167
100 - 199	44	79	158	19	90	16	89	115	131
200 - 299	48	58	116	19	90	14	78	91	103
300 - 399	38	46	92	19	90	15	83	81	92
400 - 499	25	45	90	17	81	16	89	77	88
500 - 599	11	45	90	17	81	17	94	78	89
600 - 699	10	47	94	16	76	15	83	78	89
700 - 799	8	48	96	21	100	14	78	84	95
800 +	3	50	100	21	100	18	100	88	100
Mean		64		19		15		98	

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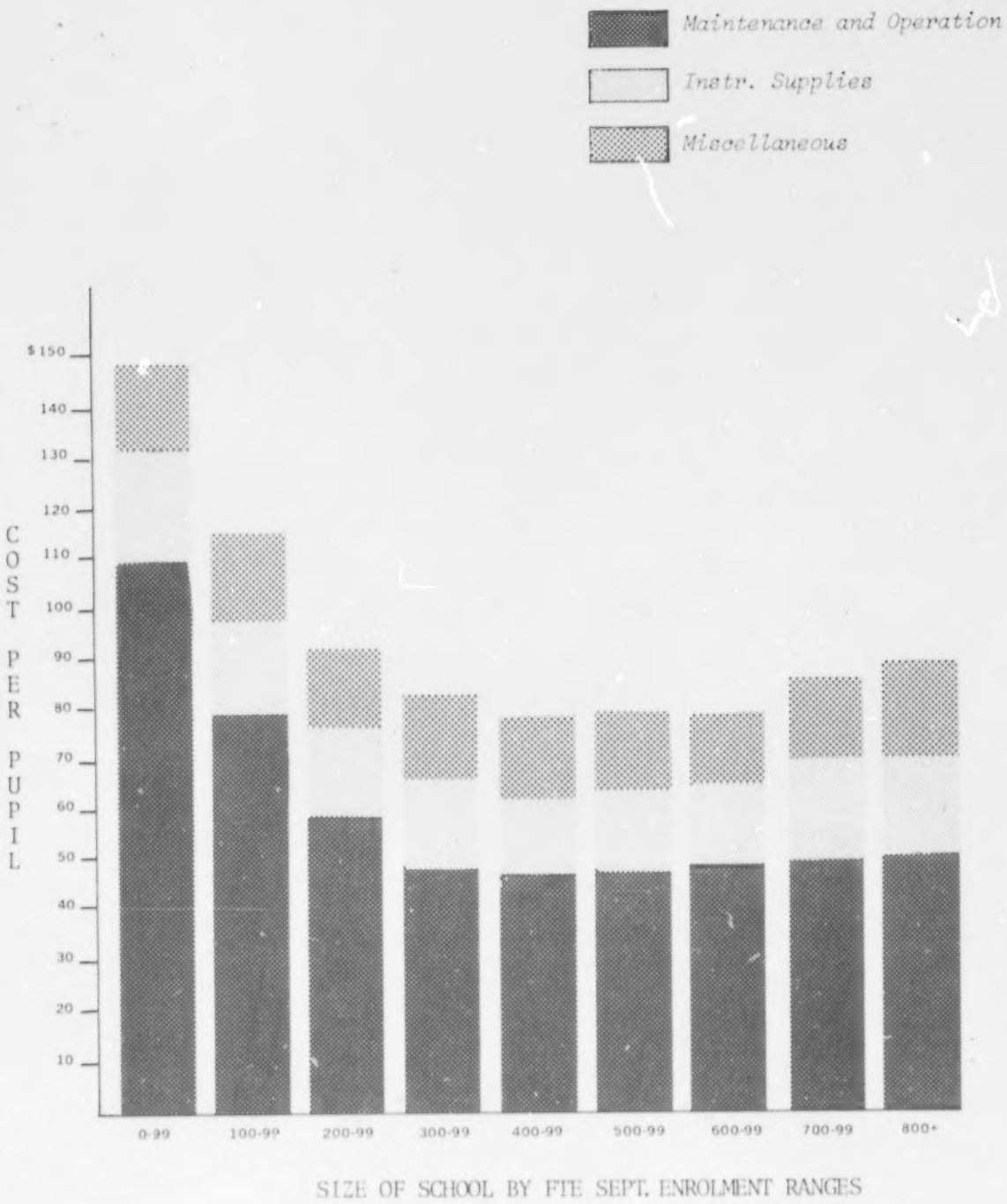
Chart 3 -- NON-PERSONNEL COSTS PER PUPIL



The Distribution Based on FTE Enrolment by 20's

It will be recalled that in addition to calculating school per-pupil costs in class intervals of 100 pupils, calculations were also made on the basis of 20 FTE pupils, for all schools with FTE enrolments below 300. Tables 40 and 41 show the break-down of per-pupil costs by five categories, using both populations (A and B), and based on 20 FTE enrolment ranges for schools with fewer than 300 pupils.

Charts 4 and 5 are graphical representations of the data in Tables 40 and 41 respectively. It is obvious from an examination of the charts that the distribution by 20's is not as even as that by 100's. This is partly due, of course, to the fact that the class intervals have considerably fewer schools in them. The two populations of schools do not show any marked differences except that the teaching cost per pupil in Chart 5 seems almost unchanged above 219 pupils whereas this is not so in Chart 4. It is possible that the removal of the 14 schools with 10 percent or more of their enrolment in special-education classes makes more of a difference in these distributions than in those based on class intervals of 100 pupils, particularly because the dropping of one school from a small number has more effect that dropping it from a larger number.

In order to test which distribution to use, Table 42 has been prepared to compare the indexes based on the cost per pupil of the 97 and 93 schools in the over-300-pupil size categories of the two distributions.

There is no clear-cut conclusion to be drawn from a comparison of these indexes. One might hypothesize that when the schools with 10 percent or more of their pupils in special-education classes are removed the indexes would be lower, since one would normally expect higher per-pupil costs in the schools removed. While this is true for six of the nine class intervals having different numbers of schools in the two distributions it is not true for the other three. In the "teaching personnel" category the "B" indexes represent a smoother curve than do the "A" indexes, particularly in the school sizes above 179. For this reason and because of the small number of cases in the class intervals, it was decided to use the 202 schools rather than the 216 schools for further analysis of the subcategories.

Looking, then, at the "B" columns of Table 42 a rather different picture emerges than that painted by Table 37. For total cost per pupil, the break point below which cost per pupil rises abnormally above that of the 93 schools with over 300 pupils, is 180 pupils, although even this is counterbalanced by an index of only 112 for the 140-159 class interval. For

TABLE 40 -- RELATIONSHIP BETWEEN PER-PUPIL COSTS IN FIVE CATEGORIES AND SIZE OF SCHOOL BY CLASS INTERVALS OF 20 PUPILS, FOR ALL SCHOOLS IN THE SAMPLE

Size of School	Number of Schools	Teaching Personnel	Other Personnel	Total Personnel	Non-Personnel	Total
< 60	6	$1,206	$333	$1,539	$146	$1,686
60 - 79	7	864	283	1,147	126	1,274
80 - 99	16	840	248	1,088	156	1,245
100 - 119	10	741	257	998	133	1,131
120 - 139	10	816	231	1,047	97	1,144
140 - 159	8	731	231	962	103	1,065
160 - 179	11	839	231	1,070	125	1,195
180 - 199	4	731	182	913	103	1,016
200 - 219	14	667	174	841	101	941
220 - 239	6	764	142	906	87	993
240 - 259	6	745	204	949	98	1,047
260 - 279	12	690	151	841	89	930
280 - 299	9	703	144	847	73	921
300 +	97	696	145	841	81	922

TABLE 41 -- RELATIONSHIP BETWEEN PER-PUPIL COSTS IN FIVE CATEGORIES AND SIZE OF SCHOOL BY CLASS INTERVALS OF 20 PUPILS, FOR SCHOOLS WITH FEWER THAN 10 PERCENT OF PUPILS IN SPECIAL-EDUCATION CLASSES

Size of School	Number of Schools	Teaching Personnel	Other Personnel	Total Personnel	Non-Personnel	Total
< 60	5	$1,259	$367	$1,626	$151	$1,778
60 - 79	6	866	294	1,160	128	1,288
80 - 99	14	805	230	1,035	147	1,182
100 - 119	10	741	257	998	133	1,131
120 - 139	9	806	220	1,026	97	1,122
140 - 159	7	704	222	926	105	1,030
160 - 179	11	839	231	1,070	125	1,195
180 - 199	4	731	182	913	103	1,016
200 - 219	13	660	171	831	101	932
220 - 239	5	714	138	852	78	930
240 - 259	5	708	193	901	98	999
260 - 279	11	700	154	854	91	945
280 - 299	9	703	144	847	73	921
300 +	93	693	144	837	80	917

CHART 4 -- TOTAL IN-SCHOOL COST PER PUPIL
(ALL SCHOOLS IN SAMPLE)

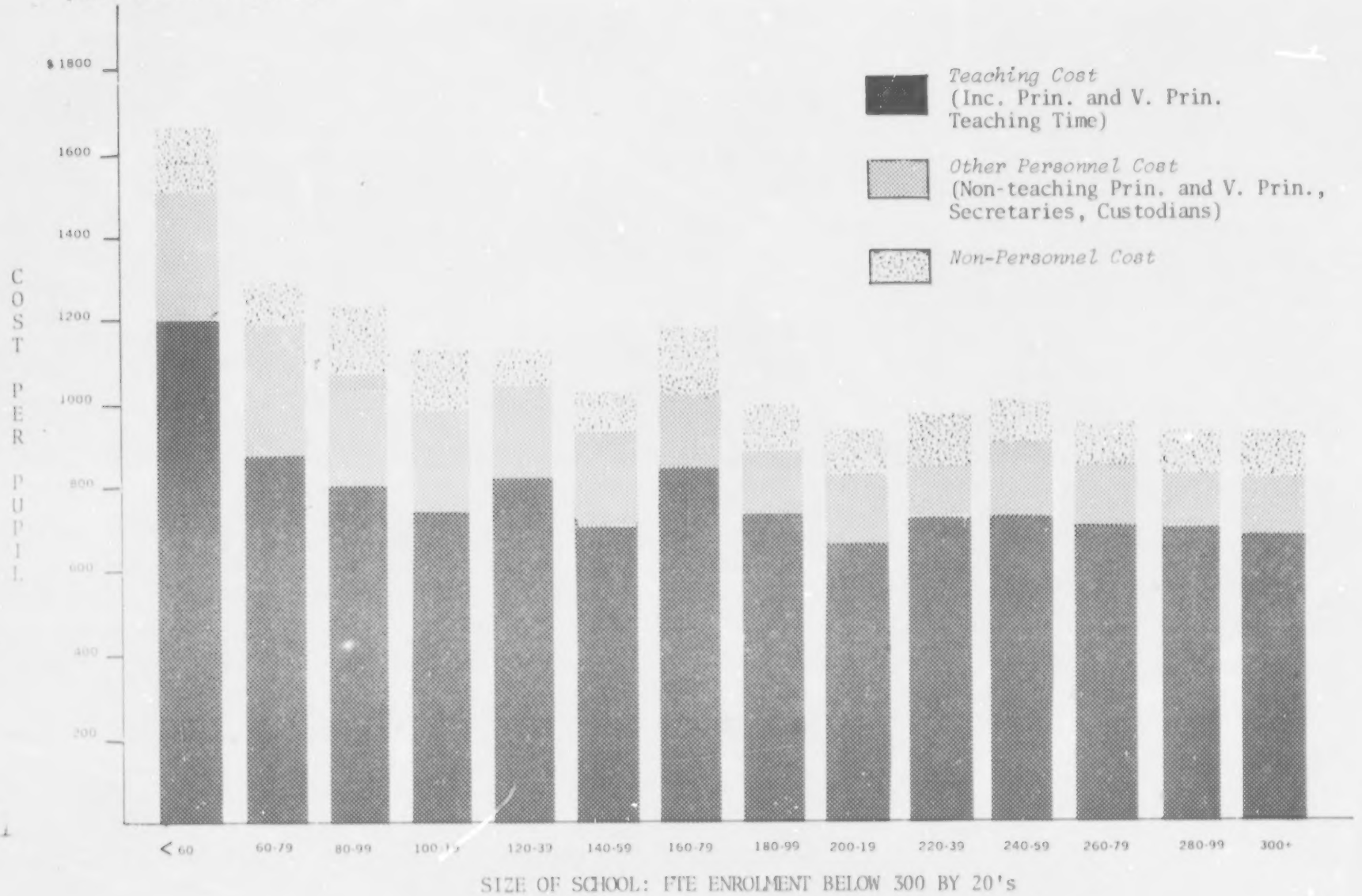


CHART 5 -- TOTAL IN-SCHOOL COST PER PUPIL EXCLUDING SCHOOLS WITH SPECIAL-EDUCATION ENROLMENT 10% OR MORE OF TOTAL

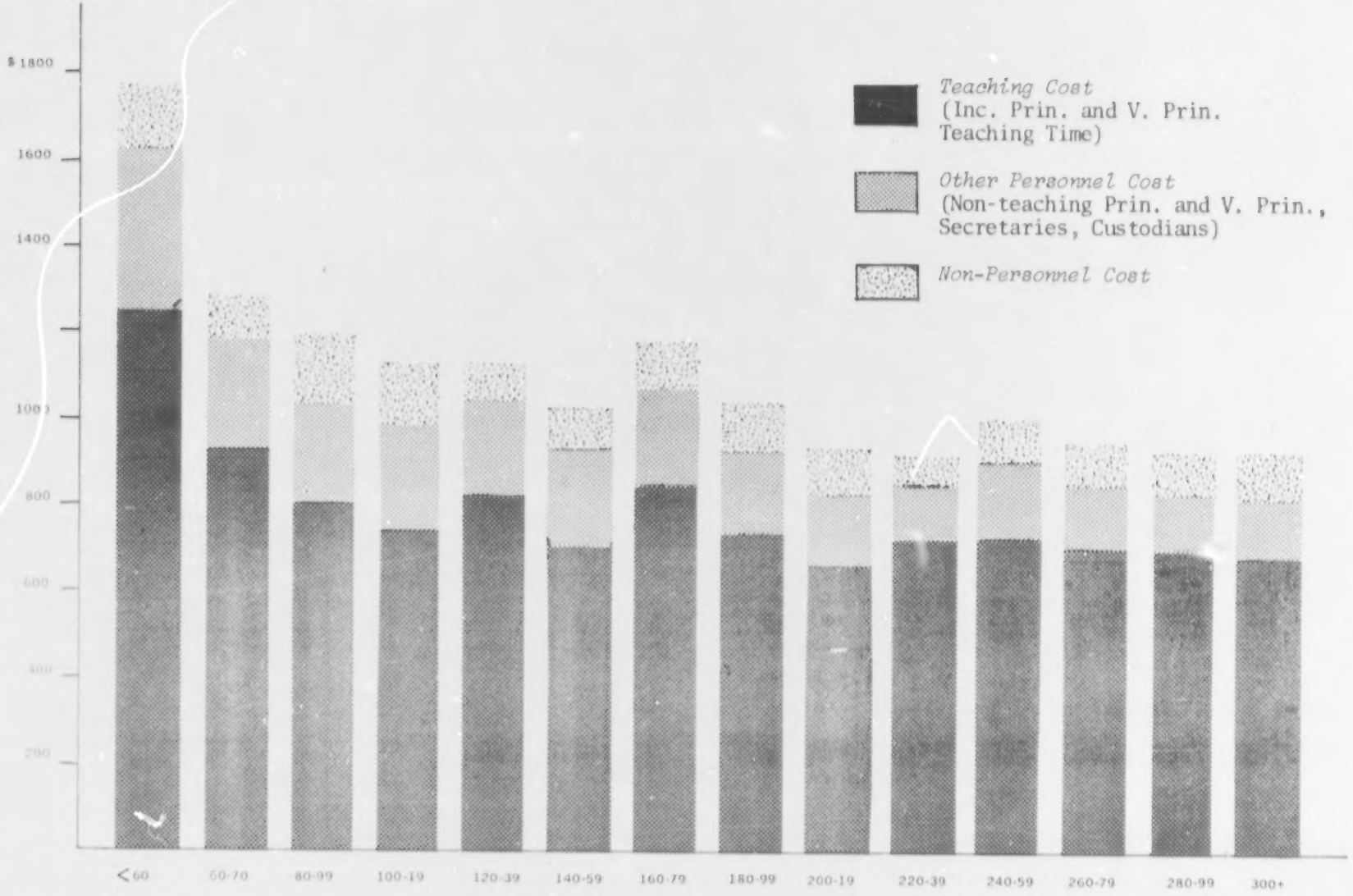


TABLE 42 -- INDEXES OF COST PER PUPIL IN FIVE CATEGORIES COMPUTED FROM TABLES 10 AND 11 USING THE 300+ CLASS INTERVAL AS THE BASE OF 100

Size of School	Number of Schools		Teaching Personnel		Other Personnel		Total Personnel		Non-Personnel		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
< 60	6	5	173	182	230	255	183	194	180	189	183	194
60 - 79	7	6	124	125	195	204	136	139	156	160	138	140
80 - 99	16	14	121	116	171	160	129	124	193	184	135	129
100 - 119	10	10	106	107	177	178	119	119	164	166	123	123
120 - 139	10	9	117	116	159	153	124	123	120	121	124	122
140 - 159	8	7	105	102	159	154	114	111	127	131	116	112
160 - 179	11	11	121	121	159	160	127	128	154	156	130	130
180 - 199	4	4	105	105	126	126	109	109	127	129	110	111
200 - 219	14	13	96	95	120	119	100	99	125	126	102	102
220 - 239	6	5	110	103	98	96	108	102	107	98	108	101
240 - 259	6	5	107	102	141	134	113	108	121	123	114	109
260 - 279	12	11	99	101	104	107	100	102	110	114	101	103
280 - 299	9	9	101	101	99	100	100	101	90	91	100	100
300 +	97	93	100	100	100	100	100	100	100	100	100	100

A = Indexes for all schools in the sample, n = 216.

B = Indexes for schools with fewer than 10 percent special education, n = 202.

teaching personnel the break point does not seem to consistently appear until FTE enrolment drops below 100. There are anomalies here, also; while the index for the 60-79-pupil group is 125 that for the 160-179-pupil group is 121.

Perhaps not too much reliance should be placed on Table 42 because of the small number of schools in most of the class intervals. What does seem to emerge, however, is a confirmation of the conclusion drawn from the distribution by 100's -- that it is only schools below 200 pupils that begin to show substantially increased costs per pupil. An exception to this general rule occurs for the "other personnel" category where the 240-259-pupil class interval shows a 34 percent higher cost than for the over-300-pupil group. Table 43 shows the breakdown of the "other personnel" category.

The "other personnel" cost per pupil for the average of the 93 schools in the over-300-pupil group was divided among the three components as follows: administrative, 44.4%; custodial, 41.0%; and secretarial, 14.6%.

The "other personnel" category in total can really be said to start its increased cost per pupil when it falls below 220 pupils (19 percent above base) although there is the anomaly that in the class interval of 240-259 the cost was 34 percent above base.

When we examine the components we see the same pattern for administrative cost per pupil -- at least 20 percent above base for all schools with fewer than 220 pupils, but 33 percent above base for those in the 240-259 group. For custodial costs the same pattern emerges but with an even greater aberration in the 240-259 pupil group. Secretarial cost per pupil is just as erratic.

Both administrative and custodial cost per pupil exceed the base cost by over 100 percent in the under-60-pupil schools while secretarial cost does so in the 60-79-pupil schools.

As for "other personnel" as a whole, this table tells us little about the components except that all three contribute strongly to the increased cost per pupil of this category and all in a rather erratic manner.

In order to be able to make more definite statements as to the real pattern in schools below 300 pupils it would be necessary not only to have a much larger sample but also to ensure that each size category was representative of most of the following board and school characteristics: school type (K-6, K-8, etc.); board type (public or separate); geographical location (north or south, urban or rural); and board size (small, medium, or

TABLE 43 -- BREAKDOWN OF THE 'OTHER PERSONNEL' COST PER PUPIL FOR THE 'B' POPULATION BY SIZE OF SCHOOL IN CLASS INTERVALS OF 20 FTE PUPILS, WITH INDEXES BASED ON COST PER PUPIL IN THE OVER-300 PUPIL GROUP

Size of School	Number of Schools	Administration		Custodial		Secretarial		Total	
		$/pupil	Index	$/pupil	Index	$/pupil	Index	$/pupil	Index
< 60	5	174	272	160	271	33	165	367	255
60 - 79	6	134	209	103	175	56	280	294	204
80 - 99	14	100	156	97	164	34	170	230	160
100 - 119	10	126	197	96	163	36	180	257	178
120 - 139	9	105	164	84	142	30	150	220	153
140 - 159	7	81	127	115	195	27	135	222	154
160 - 179	11	108	169	86	146	36	180	231	160
180 - 199	4	79	123	75	127	28	140	182	126
200 - 219	13	77	120	70	119	24	120	171	119
220 - 239	5	64	100	57	97	18	90	138	96
240 - 259	5	85	133	84	142	24	120	192	134
260 - 279	11	72	113	58	98	24	120	154	107
280 - 299	9	66	103	58	98	20	100	144	100
300 +	93	64	100	59	100	20	100	144	100
Mean		82		73		26		181	

large). This was not possible in this study chiefly because school-by-school breakdowns of maintenance and operation costs were not available from many boards. It is therefore possible that, when dealing with class intervals containing only 5 or 6 schools which display erratic patterns relative to their neighbours in a table, we are looking at a group of schools most of which are from the same low-spending (or high-spending) board, or other atypical group of schools.

Table 44 displays the breakdown of the "non-personnel" cost per pupil. From the means it can be calculated that "non-personnel" cost per pupil is composed of 64.9% "maintenance and operation," "supplies," 19.6%, and "miscellaneous (books, etc.)," 15.5%. Whatever pattern there exists in the "non-personnel" total, therefore, depends chiefly on the "maintenance and operations" component. An examination of the index numbers for the two "supplies" categories will show that there is no pattern in cost per pupil in this area. For "maintenance and operations," the pattern is less erratic, although here, too, there are marked deviations in the 120-139 and 220-239 class intervals. Chart 6 shows the line of best fit running through the points on the graph representing the dollars per pupil for "maintenance and operations" cost per pupil in Table 44. Apart from the two major aberrations referred to above, there does seem to be a gradual trend to increased cost per pupil as the enrolment decreases below 300 pupils -- along a line whose low end approximates $40 per pupil and whose high end approximates $110 per pupil.

Chart 7 shows the combined "supplies" and "miscellaneous" "non-personnel" items (the principal's budget) plotted on graph paper. It is obvious that when the individual variations among class-interval averages are ironed out there is only a very slight increase in per-pupil cost for these items as school size drops below 300 pupils (from about $33 to about $35 per pupil).

The Analysis According to Pupils per Grade

Tables 45 and 46 display the results of the calculations using a distribution of schools on the basis of class intervals of five pupils per grade below 60 pupils per grade (PPG). Table 45 is for all schools and Table 46 for the 202 schools with fewer than 10 percent of their enrolment in special-education classes.

The differences between Tables 45 and 46 are not very great -- not great enough to affect any conclusions one would want to make from them

TABLE 44 -- BREAKDOWN OF THE 'NON-PERSONNEL' COST PER PUPIL FOR THE 'B' POPULATION BY SIZE OF SCHOOL IN CLASS INTERVALS OF 20 FTE PUPILS WITH INDEXES BASED ON COST PER PUPIL IN THE OVER-300 PUPIL GROUP

Size of School	Number of Schools	Maintenance and Operations		Supplies		Miscellaneous (books, etc.)		Total	
		$/pupil	Index	$/pupil	Index	$/pupil	Index	$/pupil	Index
< 60	5	109	232	22	122	20	133	151	189
60 - 79	6	99	211	17	94	12	80	128	160
80 - 99	14	109	232	23	128	16	107	147	184
100 - 119	10	102	217	17	94	14	93	133	166
120 - 139	9	55	117	19	106	23	153	97	121
140 - 159	7	74	157	19	106	12	80	105	131
160 - 179	11	89	189	20	111	16	107	125	156
180 - 199	4	68	145	22	122	13	87	103	129
200 - 219	13	73	155	16	89	13	87	101	126
220 - 239	5	39	83	21	117	18	120	78	98
240 - 259	5	62	132	21	117	15	100	98	123
260 - 279	11	56	119	19	106	15	100	91	114
280 - 299	9	40	85	21	117	12	80	73	91
300 +	93	47	100	18	100	15	100	80	100
Mean		63		19		15		97	

CHART 6 -- RELATIONSHIP BETWEEN MAINTENANCE AND OPERATION COST PER PUPIL AND SCHOOL SIZE

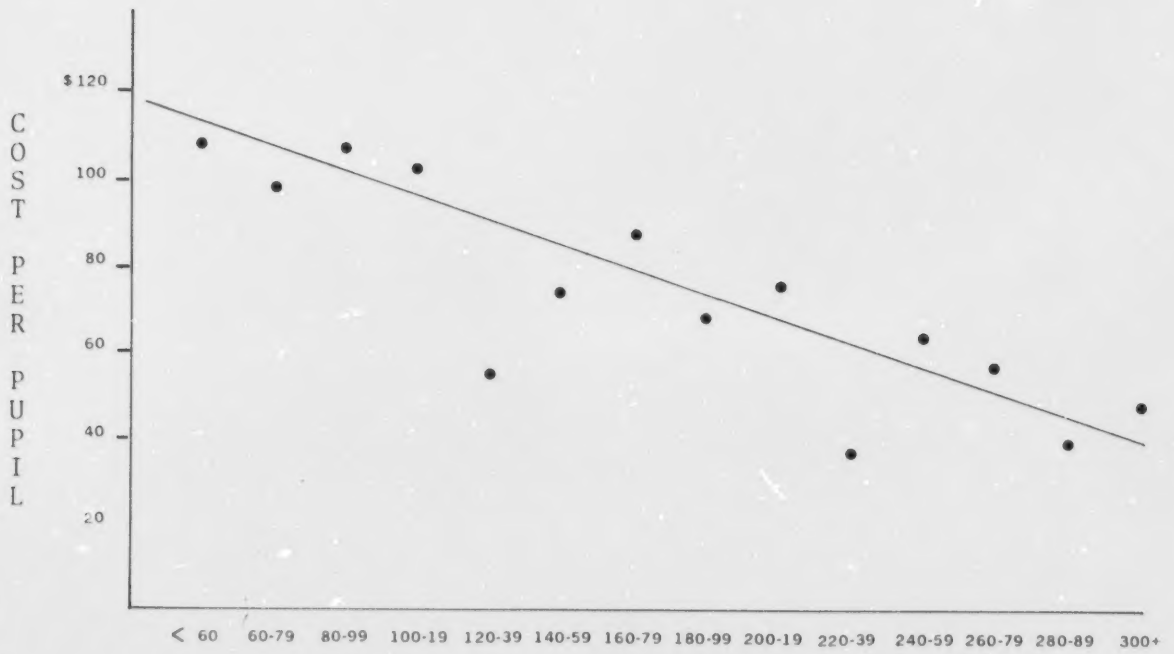


CHART 7 -- RELATIONSHIP BETWEEN PRINCIPAL'S BUDGET COST PER PUPIL AND SIZE OF SCHOOL BY 20's

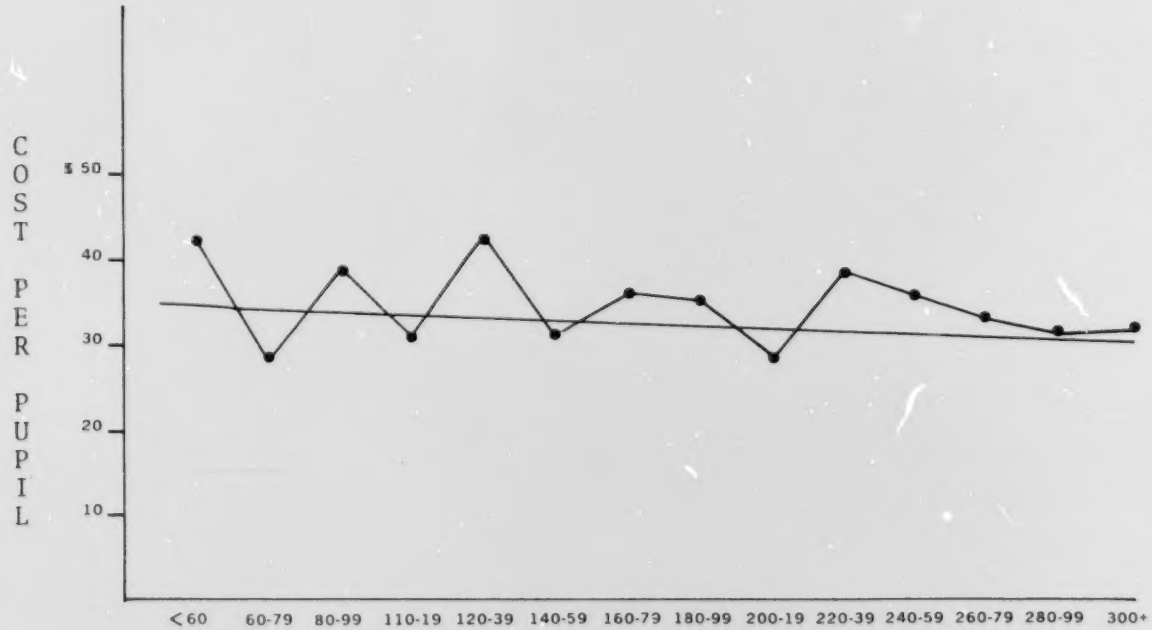


TABLE 45 -- RELATIONSHIP OF COST PER PUPIL TO SIZE OF SCHOOL BASED ON PUPILS PER GRADE FOR ALL SAMPLE SCHOOLS, TOGETHER WITH INDEXES BASED ON COST PER PUPIL IN THE 60+ PPG CLASS INTERVAL

Size of School (PPG)	Number of Schools	Teaching Personnel		Other Personnel		Non-Personnel		Total	
		$/pupil	Index	$/pupil	Index	$/pupil	Index	$/pupil	Index
< 10	9	1,137	159	407	264	224	241	1,768	184
10 - 14	21	798	112	224	145	122	131	1,145	119
15 - 19	21	824	116	224	145	102	110	1,151	120
20 - 24	24	716	100	201	131	101	109	1,017	106
25 - 29	8	671	94	188	122	87	94	947	99
30 - 34	10	707	99	141	92	88	95	936	98
35 - 39	13	746	105	186	121	94	101	1,027	107
40 - 44	14	722	101	143	93	75	81	940	98
45 - 49	19	678	95	142	92	75	81	895	93
50 - 54	11	709	99	145	94	80	86	933	97
55 - 59	6	613	86	143	93	69	74	825	86
60 +	60	713	100	154	100	93	100	959	100
Mean		745		184		98		1,027	
%		72.5		18.0		9.5		100.0	

TABLE 46 -- RELATIONSHIP OF COST PER PUPIL TO SIZE OF SCHOOL (PPG) FOR THE 'B' POPULATION OF SCHOOLS WITH INDEXES BASED ON COST PER PUPIL IN THE 60+ CLASS INTERVAL

Size of School (PPG)	Number of Schools	Teaching Personnel		Other Personnel		Non-Personnel		Total	
		$/pupil	Index	$/pupil	Index	$/pupil	Index	$/pupil	Index
< 10	8	1,162	165	462	304	236	257	1,836	193
10 - 14	19	777	110	210	138	113	123	1,100	116
15 - 19	20	819	116	221	145	103	112	1,143	120
20 - 24	23	708	100	194	128	101	110	1,003	106
25 - 29	8	671	95	188	124	87	95	946	100
30 - 34	9	673	95	139	91	83	90	895	94
35 - 39	12	731	104	180	118	94	102	1,005	106
40 - 44	14	722	102	143	94	75	82	940	99
45 - 49	19	678	96	142	93	75	82	895	94
50 - 54	10	695	99	142	93	75	82	913	96
55 - 59	5	603	86	135	89	67	73	805	85
60 +	55	705	100	152	100	92	100	949	100
Mean		736		180		97		1,013	

regarding the relationship between size of school in terms of pupils per grade and cost per pupil. An examination of both tables shows that for total in-school costs, it is not until the PPG falls below 20 that there is as much as a 10 percent increase in cost per pupil over that of schools with over 60 PPG. For the teaching component, the same is true. For "other personnel," however, the 10 percent figure is exceeded in the 35-39-PPG range and is below the 30-PPG size. For "non-personnel"costs the 10 percent level is barely reached only when the PPG falls below 25.

It is to be noted that for total cost and teaching cost the cost per pupil does not become radically greater until the size falls below 10 PPG -- an increase over the base of 84 or 93 percent for total cost, and 59 or 65 percent for teaching cost. "Other personnel" and "non-personnel" costs per pupil are more dramatic at that size -- up 164 or 204 percent for the former and 141 or 157 percent for the latter, the dual figures referring in each case respectively to the "A" and "B" populations -- the 216-school and the 202-school samples.

Chart 8 shows the data from Table 45 in trend-line form. The chart shows clearly the relationship between teaching cost and total cost. It also shows that, for both of these, schools of 60+ PPG did not have the lowest cost per pupil. This seems to have been reached at the 55-59-PPG size. From there down there seems to have been a gradual increase in cost per pupil until the 10-PPG level, with a very marked increase for smaller schools. Chart 8 also shows the tendency of "other personnel" and "non-personnel" costs per pupil to remain the same for schools with 40 or more pupils per grade, and a very slow rate of growth below that until the size falls below 10 PPG.

There would seem to be no need to break down the "non-personnel" cost per pupil but it may be worth looking at a breakdown of the "other personnel" category. This is given in Table 47 and Chart 9.

Despite aberrations in the 55-59- and 35-39-PPG ranges, administrative cost per pupil seems to remain fairly constant for schools with 30 or more pupils per grade (indexes of 94, 95, 100, and 102). Below 30 PPG it rises rapidly until the 10-14-PPG range (indexes of 129, 143, 160, and 168) and then takes off when schools fall below 10 PPG (index of 249). This is clearly seen in Chart 9.

Custodial personnel cost per pupil (except for the aberrant PPG range 35-39) is consistently 10 to 25 percent below the 60+

CHART 8 -- TOTAL COST PER PUPIL AND ITS MAJOR COMPONENTS RELATED TO SCHOOL SIZE BASED ON PUPILS PER GRADE - ALL SAMPLE SCHOOLS. N = 216

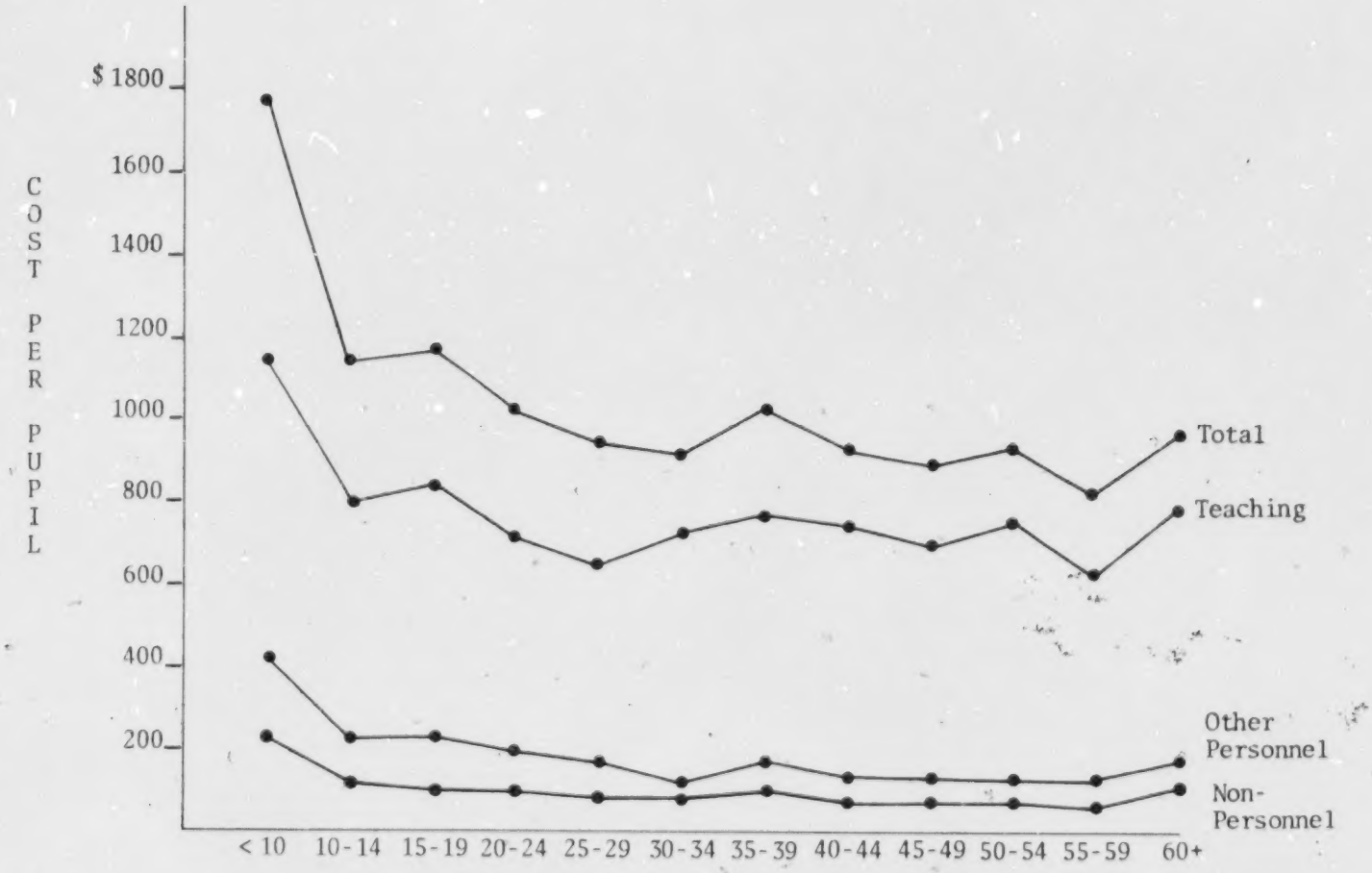
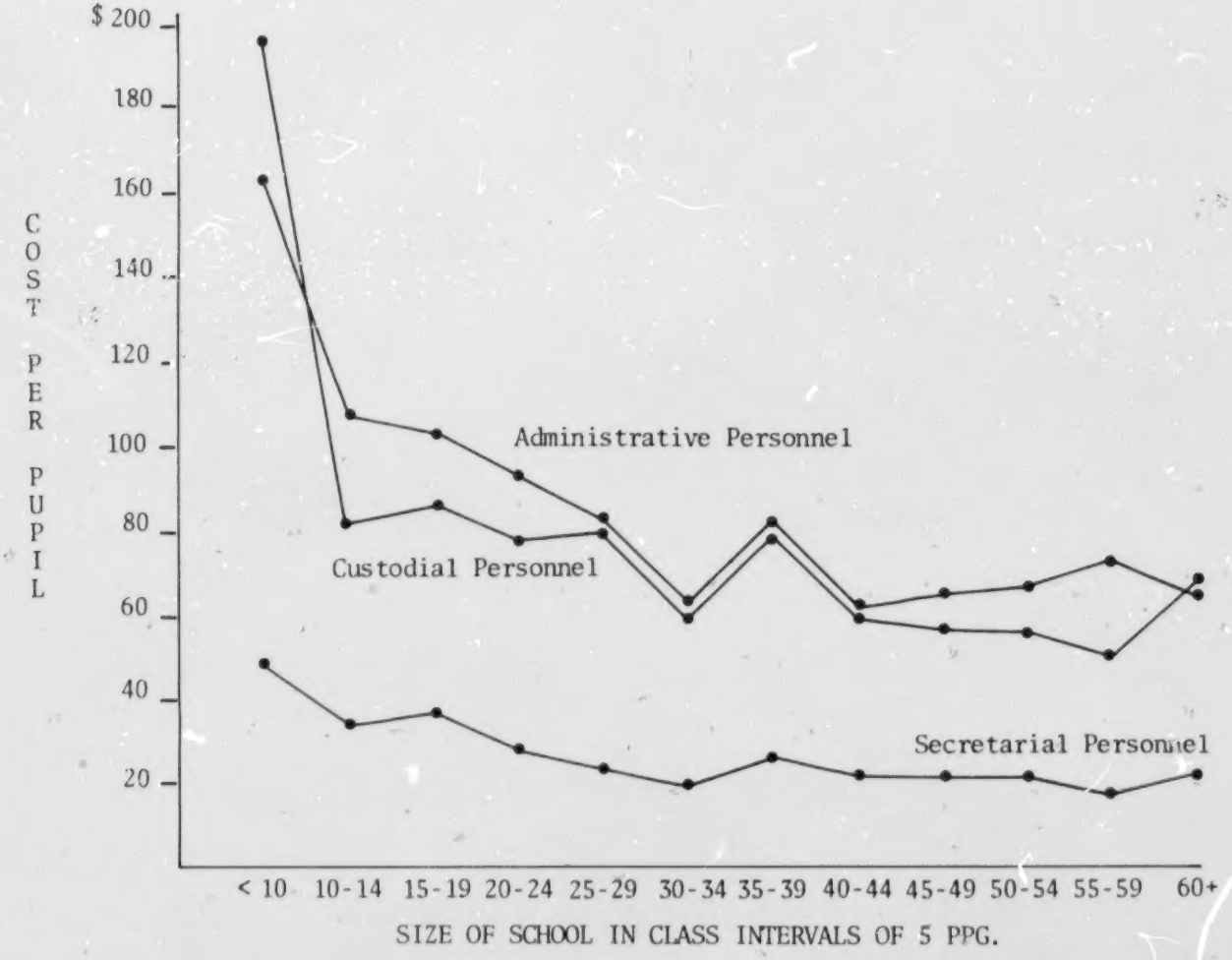


TABLE 47 -- BREAKDOWN OF 'OTHER PERSONNEL' COST PER PUPIL FOR THE 'A' POPULATION BY SIZE OF SCHOOL IN CLASS INTERVALS OF FIVE PUPILS PER GRADE WITH INDEXES BASED ON COST PER PUPIL IN THE OVER-60-PPG SIZE RANGE

Size of School	Number of Schools	Administration		Custodial		Secretarial		Total	
		$/pupil	Index	$/pupil	Index	$/pupil	Index	$/pupil	Index
< 10	8	162	249	196	293	49	223	407	264
10 - 14	19	109	168	82	122	34	155	224	145
15 - 19	20	104	160	84	125	36	164	224	145
20 - 24	23	93	143	79	118	29	132	201	131
25 - 29	8	84	129	80	119	24	109	188	122
30 - 34	9	61	94	60	90	20	91	141	92
35 - 39	12	81	125	78	116	27	123	186	121
40 - 44	14	62	95	60	90	21	95	143	93
45 - 49	19	65	100	57	85	21	95	142	92
50 - 54	10	66	102	57	85	21	95	145	94
55 - 59	5	74	114	50	75	19	86	143	93
60 +	55	65	100	67	100	22	100	154	100
Mean		82		75		26		184	

CHART 9 -- COMPONENTS OF "OTHER-PERSONNEL" COST PER PUPIL RELATED TO SIZE OF SCHOOL IN PPG. N = 216



PPG figure for schools with pupils per grade between 30 and 59. Below 30 PPG it rises to between 18 and 25 percent above the 60+ PPG base for schools in the 10-29-PPG range, and, as with administrative personnel, really goes out of sight for schools with fewer than 10 PPG -- an index of 293 or 193 percent above the 60+ PPG range.

Secretarial personnel cost per pupil (again except for the 35-39 PPG class interval) is consistently five to 14 percent below the 60+ PPG base with pupils per grade between 30 and 59. Below 30 PPG it rises slightly to nine percent above at the 25-29 PPG level, to 32, 64 and 55 percent above in the next three smaller ranges, and finally to 123 percent above the base for the under-10-PPG range.

Except for the anomaly of the 35-39 PPG group, the cut-off point is 30 PPG below which one can say there are consistently higher per pupil costs for all three components. This may be seen graphically in Chart 9.

The Relationship Between Enrolment and Pupils per Grade

Table 48 is a crosswalk for converting school size in terms of pupils per grade into size in terms of FTE enrolment.

Table 48 -- CROSSWALK FOR CONVERTING PUPILS PER GRADE TO FULL-TIME-EQUIVALENT ENROLMENT

PPG	Equivalent Full-Time Enrolment			
	JK-5 or 1-6	JK-6 or 1-7	JK-7 or 1-8	JK-8
5	30	35	40	45
10	60	70	80	90
15	90	105	120	135
20	120	140	160	180
25	150	175	200	225
30	180	210	240	270
35	210	245	280	315
40	240	280	320	360
45	270	315	360	405
50	300	350	400	450
55	330	385	440	495
60	360	420	480	540
Sample n	23	88	7	95

It will be noted that normally in this study a figure of 10 PPG means either a JK/K-6 school with a FTE enrolment of 70 pupils or a JK/K-8 school with a FTE enrolment of 90. The other break point that appears: 30 PPG means a JK/K-6 school of 210 pupils or a JK/K-8 school of 270 pupils. The number of sample schools of the four types recorded in Table 48 is shown in the bottom line of the table. There were only three sample schools that did not fit any of these categories, e.g. K-3 schools.

For the purpose of comparing break points identified in the analyses by 100-pupil and 20-pupil class intervals it is to be remembered that the 200-pupil break point in the former analysis corresponds to a JK/K-6 school of 28.6 PPG or a JK/K-8 school of 22.2 PPG.

The Variability of the Means

One thing that is obscured by the data presented so far is the great variability in cost per pupil for any particular size of school, whether size is expressed in 100's or 20's of FTE enrolment or in pupils per grade.

In order to measure this variability, standard deviations were calculated for the distributions within each class interval. Since the relevance of the standard deviation can be assessed only in relation to the mean, the coefficients of variation were also calculated. These make possible a direct comparison of results from class intervals with different means. The higher the coefficient of variation (formula: coefficient of variation = 100 x standard deviation ÷ mean) the greater the variability of per-pupil costs within a class interval. For example in a class interval of 20 pupils let us suppose we have ten schools with cost per pupil for administration of 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 dollars respectively. The mean cost per pupil would be $55. Let us suppose that in another class interval we have another ten schools with administrative cost of 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70 dollars per pupil. The mean cost per pupil would be $65.50. But obviously the $65.50 is a more meaningful description of the second group than $55 is of the first. The respective standard deviations are 28.72 for the first group and 2.87 for the second. These figures may be interpreted as follows: in the first example two-thirds of the ten schools' costs per pupil may be found within a range of $28.72 above and below the mean of $55, i.e. between $26.28 and $83.72, if the distribution is normal (which it is in the example, but usually is not in the actual study); in the second example two-thirds of the ten schools' cost per pupil may be found within a range of $2.87 above and below the mean of

$65.50, i.e. between $62.13 and $68.37. The coefficient of variability (which is really the percent the standard deviation is of the mean) for the first example is 52.2 while that of the second example is only 4.4. Since the former coefficient of variability (CV) is about 12 times as great as the latter, we can say that variability in the first example is almost 12 times as great as in the second example.

Appendix B* of the original report contains nine tables showing the class-interval means, standard deviations, and coefficients of variability for the following cost categories of the distribution of the full sample (n = 216) of schools by FTE enrolment in 100's: administrative, teaching, secretarial, custodial, supplies, miscellaneous, maintenance and operations, total non-personnel, and total in-school cost per pupil. Appendix C* (original report) contains another nine tables for the "B" population schools (n = 202) by FTE enrolment in 20's below 60 pupils. Appendix D* contains a further nine tables showing the same data for the "B" population, with class intervals of five pupils per grade below 60 PPG.

An examination of these appendices shows the following:

1. Variability in cost per pupil tends to increase as the school-size category decreases.
2. Variability in the smallest size groupings tends to be very great indeed --- over 100% in some cases and over 50% in most.
3. Variability is much less for some components of cost per pupil than for others.

All three appendices reveal that the variation is smallest for teaching cost per pupil and total cost per pupil. On the other hand, variation is too great for the means of the miscellaneous and maintenance and operations categories to be meaningful.

Implications of High Variability Coefficients

The implications for school boards of the existence of high variability in the lower school-size categories are as follows:

1. While smaller schools (those with fewer than 180-200 pupils of FTE enrolment or 30 pupils per grade) will have higher per-pupil costs on the average than will larger schools, there will be some such schools with low per-pupil costs and others with per-pupil costs much higher than the means determined in this study.

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*Available on microfiche from the Ontario Government Bookstore in an addendum to the microfiche copy of this report.

2. The cost per pupil of small schools depends to a greater extent on board policy and on the specific situation and nature of a given small school than is the case for large schools.

The implications of the variation in the variability of different categories of cost per pupil are as follows:

3. The most predictable effects of smaller schools are in total cost per pupil and teaching cost per pupil.
4. The high variability in cost per pupil of custodians and secretaries in schools smaller than 300 pupils indicates the wide variation in staffing practices for custodians and secretaries in schools in this size range.
5. The variability in the mean cost per pupil of administrative personnel for the smaller-size schools indicates widely differing practice with respect to the amount of administrative time allowed to principals in smaller shcools. It implies too that the combining of two or more former schools under one principal is a device for keeping the per-pupil cost of principals' administrative time low.
6. The patternlessness of the variability of cost per pupil for items in the principal's budget implies that size of school has very little to do with the amount spent per pupil in this category.

CONCLUSIONS

Size of School and Cost per Pupil

As expected, there is a relationship between size of school and cost per pupil even when differences in salary-scale levels, years of experience, and qualifications are discounted for all personnel employed in the schools. From the 216 schools examined in this study, it is concluded that serious increases in cost per pupil do not begin until schools fall below the 200-pupil level. A summary table has been prepared (Table 49) from which it can be seen that the average total cost per pupil for all schools with fewer than 99 pupils was 46 percent higher than for schools with over 300 pupils, 52 percent higher than for schools in the 400-499 range, and 42 percent higher than for schools with 800 or more pupils. The corresponding figures for schools with between 100 and 199 pupils is 23 percent, 28 percent, and 20 percent, while for the next higher group, 200-299, the corresponding figures are only 4 percent, 9 percent, and 1 percent.

TABLE 49 -- SUMMARY TABLE SHOWING PERCENT BY WHICH COST PER PUPIL IN VARIOUS CATEGORIES IS ABOVE (OR BELOW) THE AVERAGE COST PER PUPIL IN THE SCHOOLS IN THREE POPULATIONS, *VIZ:* ALL SCHOOLS WITH OVER 300 FTE ENROLMENT, ALL SCHOOLS IN THE 400-499 PUPIL RANGE, AND THE THREE SCHOOLS WITH MORE THAN 800 PUPILS

Size of School	Categories and Bases																								Number of Schools	
	Total						Teaching Personnel						Other Personnel						Non-Personnel							
	300+		400-499		800+		300+		400-499		800+		300+		400-499		800+		300+		400-499		800+			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
0- 99	46	45	52	59	42	41	32	31	38	36	27	26	89	90	101	102	109	108	81	80	91	88	67	64	29	25
100-199	23	22	28	27	20	19	12	12	17	16	8	7	61	60	72	70	79	76	42	45	49	51	31	32	44	42
200-299	4	3	9	7	1	1	1	0	5	4	-3	-4	12	12	20	18	24	23	12	13	18	17	3	2	48	44
> 60	83	94	91	102	79	88	73	82	81	88	67	74	130	155	145	170	154	180	80	89	90	96	66	72	6	5
60- 79	38	40	45	46	35	36	24	25	29	30	19	20	95	104	108	116	116	124	56	60	64	66	43	45	7	6
80- 99	35	29	41	34	32	25	21	16	26	21	16	11	71	60	82	69	89	76	93	84	103	91	77	67	16	14
100-119	23	23	28	28	20	20	6	7	11	11	2	2	77	78	89	89	96	96	64	66	73	73	51	51	10	10
120-139	24	22	30	27	21	19	17	16	22	21	13	11	59	53	70	62	76	68	20	21	26	26	10	10	10	9
140-159	16	12	21	17	13	9	5	2	9	5	1	-3	59	54	70	63	76	69	27	31	34	5	17	-2	8	7

Note: The "A" columns in each case refer to the total sample, whereas the "B" columns refer to the 202 schools with fewer than 10 percent of their enrolment in special-education classes. The first line is explained thus: The average total cost per pupil of the 29 schools with FTE enrolment below 100 pupils was 46% higher than that for all schools with 300 or more pupils, 52% higher than all schools having between 400 and 499 pupils, and 42% higher than the three schools having more than 800 pupils. Similarly the average total cost per pupil of the 25 schools (excluding special education of 10% or more) in the under-100-pupil range was respectively 45%, 59%, and 41% higher than the correspondingly reduced schools in the over-300-, 400-499-, and over-800-pupil groups.

A closer look at schools with fewer than 300 pupils in class intervals of 20 did not add much additional information. It showed that the 0-99-pupil group increase of 46 percent could be broken down into 83 percent for schools under 60 pupils, 38 percent for 60-79-pupil schools, and 35 percent for 80-99-pupil schools -- all in relation to the average cost per pupil in schools of over 300 pupils. The summary table yields similar information about the increases relative to the 400-499-pupil and over-800-pupil schools.

The analysis of per-pupil costs by class intervals of five pupils per grade seemed to indicate that significant increases in total cost per pupil do not begin to occur, on the average, until a school falls below 20 pupils per grade, which is equivalent to a 140-pupil JK-6 school or a 180-pupil JK-8 school.

The answer to the first question posed on page 156 is "A school tends to become uneconomical to operate when its enrolment falls below 200 pupils or below 20 pupils per grade."

Components of Increased Cost per Pupil

The study showed clearly that, because teaching cost is such a high percentage of the total cost per pupil, it has the greatest influence on changes in cost per pupil. On a percentage comparison, however, teaching costs increase the least with declining enrolment. As was expected, the big percentage increases are in administrative, custodial, and secretarial personnel and in non-personnel costs. Of the latter, the items in the principal's budget seemed unrelated to size of school, the maintenance and operations cost per pupil (excluding custodial salaries and major renovations) being the chief contributors to non-personnel cost-per-pupil increases, particularly in schools below the 120-pupil size.

This means that board policy with respect to the number of classroom teachers per thousand pupils is much more nearly uniform across the system's schools than it is with respect to the other components of total personnel cost per pupil.

If we take a typical small school -- one in the 80-99-pupil range -- we have the following picture with respect to the various cost-per-pupil components, as compared with those of the 93 "B" schools with more than 300 pupils: total cost up 29 percent; teaching cost up 16 percent; administrative personnel cost up 56 percent; custodial personnel cost up 64 percent; and secretarial personnel cost up 70 percent. On the average,

for the 14 schools in the 80-90-pupil group, non-personnel costs per pupil were 84 percent higher than in the 300+ group, but this figure is less reliable because of the great variability in non-personnel costs in this class interval (CV = .131).

That the non-teaching categories, while constituting only 27 percent of the cost per pupil of the 202 schools being considered, were able to boost a 16 percent increase in teaching cost per pupil to a 26 percent increase in total cost per pupil is strong testimony to the part they play in determining increases in the cost per pupil of schools having fewer than 200 pupils.

APPENDIX: LETTERS AND QUESTIONNAIRES

A French version of the Principal Letter and Principal Questionnaire is available on microfiche from the Ontario Government Bookstore, in an addendum to the microfiche copy of this report.

Similarly, tables of means, standard deviations, and coefficients of variability (for different categories of cost per pupil) that were appended to the original report are available on microfiche in the same addendum.

The letters and questionnaire follow on pages 166-175.

THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

252 BLOOR STREET WEST, TORONTO, ONTARIO, CANADA M5S 1V6 TELEPHONE 923-6641

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

MEMORANDUM

TO : The Principal

FROM: E. Brock Rideout, Professor
Principal Investigator

RE : Accompanying Questionnaire

DATE: February 13, 1976

Your school board has agreed to participate in a contract research project, funded by the Ministry of Education, entitled: "The Educational, Social, and Financial Implications to School Boards of Declining Enrolments." As principal investigator for the project, may I solicit your assistance in one phase of the project, viz: a study of the relationship between school size and cost per pupil? We have selected 250 elementary schools in five size ranges located in 24 school boards. I hope you will take the time to answer the accompanying questionnaire as accurately as possible and return it to me in the enclosed self-addressed envelope.

To eliminate the effects of wage and salary differentials caused by variations in qualifications and years of experience and (between boards) variations in wage and salary rates, the questionnaire asks for enrolment and full-time-equivalent staff rather than wage and salary data. Provincial average figures for the remuneration of principals, vice-principals, teachers, secretaries, and teacher aides will be used in determining per-pupil costs for each type of personnel for various sizes of schools.

There may be special additional costs in your school that you consider unrelated to the size of the school. For example, your school may be in the core area of a city where a special teacher is employed to teach English as a second language. I would welcome your providing this type of information including the percentage of the week spent by such a teacher in other than regular classroom duties. (Such a teacher should also be included in item 7-a of the questionnaire.)

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DEPARTMENT OF EDUCATIONAL ADMINISTRATION

Money spent on permanent improvements or on other than regularly occurring equipment purchases is not normally of interest; such expenditures should be included only when they are made from a supply budget that could otherwise have been spent entirely on non-capital items.

I am asking for data relating to custodial services directly from the board. However, if custodial supplies and/or salaries are included in the budget you administer, please supply the data, e.g. FTE of custodians and money spent on custodial supplies.

I hope that if you have any special problems that cannot be explained on the questionnaire you will call me at (416) 923-6641, ext. 406.

Thank you very much for your cooperation in this research project.

N.B.: If possible question 11 should give dollar amounts for the school year 1975-76. If this is not possible give figures for the calendar year 1975. Please indicate whether your figures are for the calendar or school year.

EBR:mm

Enclosures

ELEMENTARY PRINCIPALS' QUESTIONNAIRE RE RELATIONSHIP

BETWEEN COST PER PUPIL AND SCHOOL SIZE

1. Since either board policy or personal interpretation of a question may vary considerably, please write extra comments at any point where you feel there is a need. If more extensive explanation or clarification is needed, feel free to contact Brock Rideout (collect) at OISE: (416) 923-6641, ext. 406.

2. Board Name : _____

3. School Name : _____

4. Enrolment - September 30, 1975:

   a) JK and K _____

   b) 1 - 6 _____

   c) 7 - 8 _____

   d) 9 - 10 _____

   e) Spec. Ed. _____

   f) Is JK/K on a full-time or part-time basis?

      full-time _____

      part-time _____

5. How much time per week (on the average) do you spend in classroom teaching (other than regular visits to observe teachers and students and other than as a supply teacher)?

   None : _____ or

   _____ days, or

   _____ half-days, or

   _____ hours.

6. a) Does your school have a vice-principal?

Yes : _____

No : _____

b) If yes, how much time per week is the vice-principal scheduled to take charge of a classroom?

None : _____ or

_____ days, or

_____ half-days, or

_____ hours.

7. a) How many teachers (exclusive of the principal and vice-principal) were regularly employed in your school as of September 30th.

i) Full-time : _____

ii) Full-time equivalent of part-time (including itinerant) teachers : _____

b) What was the full-time equivalent (FTE) of teachers of special-education classes, if any, included in (a)? _____

c) What was the FTE of the time of Home Economics and Industrial Arts teachers included in (a) teaching pupils from other schools? _____

(e.g., if you have one Home Economics and one Industrial Arts teacher and 21% of your HE/IA pupils are bused in from other schools, your answer would be .21 x 2 = .42).

8. What is the full-time equivalent of paid teacher aides employed in your school? _____

(e.g., if you have one full-time and one half-time aide and 10 who work an average of ½ day per week the FTE = 1 + .5 + 10(.1) = 2.5)

9. What is your best estimate of the average number of hours monthly spent in your school (or on your school's business), by central-office personnel (supervisory officer, consultants, etc.)? _____

10. What is the full-time equivalent of the secretarial time allotted to your school? _____

(e.g., a) one full-time secretary and one half-time typist = 1.5 FTE's;
b) secretarial help for three days each week = .6 FTE's).

11. In 1975 how much did your school spend on:

a)	Library books	: $ _____
b)	Textbooks	: _____
c)	Reference materials	: _____
d)	Phys. Ed. Supplies (incl. trips)	: _____
e)	Music supplies and equipment*	: _____
f)	Art supplies	: _____
g)	Consumable supplies	: _____
h)	A/V equipment* and supplies	: _____
i)	Special Education supplies	: _____
j)	Field trips	: _____
k)	Office supplies	: _____
l)	Supply teachers	: _____
m)	Other: _____	: _____
	_____	: _____
	_____	: _____
	_____	: _____
	_____	: _____

*Since what is sought here is only annually recurring expenditure, include expenditure on equipment only when the board has made an annual allotment for equipment per school, per student, or per classroom, or, in the case of lump-sum budgets, when the expenditure was made as a substitute for a non-capital category of expenditure. What we want to eliminate here are special capital expenditures that may be made in one school or group of schools one year and in another school or group of schools the next, as the result of board policy or requests from schools.

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252 BLOOR STREET WEST, TORONTO, ONTARIO, CANADA M5S 1V6 TELEPHONE 923-6641

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

February 13, 1976

First, let me thank you for agreeing to participate in Phase II of the School-Size/Cost-Per-Pupil study that forms part of the research we are doing, under contract with the Ministry of Education, into the educational, social, and financial implications to school boards of declining enrolments.

We have selected 250 schools, 50 in each of five size categories based on enrolment per grade. The design of the study is to use provincial average-salary figures for various classes of personnel and apply them to full-time-equivalent (FTE) staff employed in the various schools. The personnel costs thus determined will be divided by the FTE enrolment to give us a cost-per-pupil figure for each size-category of school. We have devised a questionnaire for the principals of each of the 250 schools to elicit data concerning enrolment and full-time-equivalent staff and expenditures on consumable supplies, library, text, and reference books, and other items in the budgets administered by the principal.
the 250 schools are under your jurisdiction.

I am enclosing a copy of the questionnaire and the covering letter to the principal for your information. In addition, as requested by many of the cooperating boards, I am enclosing the questionnaires and covering letters for your principals together with stamped self-addressed envelopes for return of the questionnaires to me. The reason for this is to make it possible for you to send a covering letter to the principals, if you wish, indicating the board's support for this research. This should ensure a better level of response. Your cooperation would be appreciated in seeing that these questionnaires reach the principals concerned.

Two kinds of data are being solicited from board-level officials. Enclosed you will find a short data sheet for each of your schools involved in the study. This sheet asks for information that the advisory committee felt

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DEPARTMENT OF EDUCATIONAL ADMINISTRATION

would be more apt to be accurately known centrally than at the school level. Also enclosed is a data sheet asking for your board's policy with respect to certain matters. The first question, relating to monthly hours of work of supervisory and consultative personnel, is required in order to cost the time of such persons spent in individual schools, as reported on the first data sheet. I would appreciate it if you would have these data sheets completed by the appropriate officials and return them to me at your earliest convenience.

All of the information collected will be used only in aggregated form and no board or school information will be published or made available to the Ministry.

In a period when declining enrolments are decreasing the size of schools in most jurisdictions, it is important to have reliable data on which to determine the cost-per-pupil differential, if any, between schools of different sizes. The study is designed as it is in order to eliminate the effects of different average qualifications, years of experience, and salary-scale levels from personnel costs.

Any suggestions you or your staff may have with respect to making the study more accurate and meaningful will be welcome.

Yours very sincerely,

E. Brock Rideout, Professor
Principal Investigator

EBR:mm

Enclosures

SCHOOL-SIZE/COST-PER-PUPIL STUDY

Data Sheet to Gather Information on Maintenance, Operational, and Certain Other Costs of Designated Schools

1. BOARD NAME : _____
2. SCHOOL NAME : _____
3. Man-hours per month spent in school by custodians/cleaners: _____
4. Average monthly cost of contract cleaning (if applicable): _____
5. Custodial supplies expenditure (yearly). (Please indicate whether 1975, 1975-76, or 1976): _____
6. Annual heating costs (fuel bills): _____
7. Annual lighting costs (Hydro bills): _____
8. Annual telephone costs: _____
9. Annual cost of regular maintenance of building and grounds (do not include costs of additions or renovations): _____
10. Any other pertinent information relating to the maintenance and operation of this school:

_____

_____

_____

_____

_____

_____

11. Best estimate of average hours per month spent by supervisory officers working in, or on behalf of, this school: _____
12. Best estimate of average hours per month spent by consultants and special-subject supervisors (board employed) in this school: _____
13. How many pupils are transported daily to this school at board expense? _____

SCHOOL-SIZE/COST-PER-PUPIL STUDY

Supplementary Data Sheet for Gathering Information
Relating to Board Policy

1. BOARD NAME : _____

2. What is considered to be the average number of hours per month worked by:

   a) a full-time supervisory officer? _____

   b) a full-time consultant or subject specialist? _____

3. On what basis are supplies budgets allotted to schools? Is it done strictly on the basis of enrolment, or do smaller schools in effect get a somewhat larger allotment per student? Please explain:

_____

_____

_____

_____

_____

_____

4. Does your board's policy with respect to teacher allotment among schools explicitly allow more staff per 1,000 pupils to smaller schools than to larger schools?

   Yes : _____ No : _____

   If yes, please explain:

_____

_____

_____

_____

_____

_____

5. Is there anything in your board's policy or practice that would tend to relate principal's salaries to size of school? In other words, do principals of smaller schools earn less than principals of larger schools except as a result of having lower academic qualifications and/or years of experience?

6. What other information, besides that asked for in this questionnaire and in the principal's questionnaire, is available that might indicate that small schools are more or less costly on a per-pupil basis than larger schools?

4 Alternative Daytime Use of Vacant School Space

INTRODUCTION

One of the problems school boards face as a result of declining enrolments is what to do with the resulting vacant space in schools. One solution, that of school closure, has already been investigated and reported on.* But this is a drastic and last-resort measure. Most boards are able to use a considerable amount of vacant space to reduce overcrowding, to enrich the school program, or to provide space for other legitimate activities of the school or the school board. Some of these uses will be mentioned in this report. However, a point is usually reached when there are no further efficient school uses for all of the space made available by declining enrolment. The question of alternative daytime use of this vacant space then arises. This is the main concern of this report.

PRELIMINARY SURVEY

In the fall of 1974, as part of the contract research funded by the Ontario Ministry of Education and entitled "Educational, Social, and Financial Implications to School Boards of Declining Enrolment," a preliminary survey questionnaire was distributed to 43 school boards. Forty boards responded to this questionnaire, which included questions on the use of vacant school space. The boards had been selected in such a way as to represent the various sizes, types, and geographical locations of boards and their degree of urbanness. Of the 40 boards, 17 were defined as urban and 23 as rural; 27 were public and 13 separate; 12 were

The research team wishes to thank the school boards, their senior officials, and the school principals and vice-principals involved for their cooperation in this aspect of the study.

The interviewing and first draft of the report were done by Marion Harris, Research Officer. Brock Rideout, with the assistance of Christine Sylvester, provided general supervision as well as editing the report. Mention must also be made of the contribution of Dr. John Murray who was deeply involved in the conceptualization of this part of the overall study.

*Rideout, E. Brock, *et al.*, *Meeting Problems of Declining Enrolment* (Toronto: Ministry of Education, 1975).

located in northern Ontario and 28 in the south; there were 19 small boards (elementary enrolment less than 8,000), 10 medium (between 8,000 and 15,000), and 11 large. A summary of the results of the preliminary survey follows.

One method of using surplus space in schools is sharing with other boards or other agencies. Almost one-third of the reporting boards indicated that they were sharing facilities with other boards.

Another method of making use of vacant space is to extend the program to include services that were not previously offered. For elementary schools this usually means expansion in the pre-school area: expansion of kindergarten programs for the 5-year-olds and provision of junior kindergartens for 4-year-olds. More than half of the boards indicated that they had instituted new or extended kindergarten or junior kindergarten programs since 1969. The boards that had established new kindergartens were mainly rural, whereas the junior kindergartens were being developed mainly by urban boards. Practically all the separate-school boards had established new junior and senior kindergartens. Full-day kindergartens had been instituted by 10 boards, mostly in rural areas in Southern Ontario, since 1969. It is apparent that the extension and expansion of the kindergarten programs has occupied some of the space left vacant by elementary enrolment declines. Some vacant space was also occupied by other agencies. Use for day care was reported by 11 boards, for nursery schools by 8, and for other community day-time purposes by 15. Predictably, these were the large, urban, public boards which have both vacant space and demand for it in their communities.

The boards were also asked to indicate the frequency with which vacant space had been used for a variety of purposes. The most popular use involved program enrichment: 30 of the 40 boards indicated that they frequently used vacant space to enrich school programs in such areas as art, music, and library. Only three (all rural) boards indicated that they never or rarely used vacant space for such purposes. Presumably these are boards with little vacant space.

Almost two-thirds of the boards reported that they frequently used vacant space to expand special-education programs. The distribution of this use pattern by type of board is presented in Table 50.

Only rural boards never or rarely used vacant space for expansion of special education. Nine of the 13 separate-school boards reported using vacant space frequently for this purpose. This is the same pattern that was found for program enrichment.

TABLE 50 -- FREQUENCY OF USE OF VACANT SPACE TO EXPAND SPECIAL-EDUCATION PROGRAMS

Board	Never or Rarely	Occasionally	Frequently	N/A
Urban	-	6	10	1
Rural	4	3	15	1
Small	2	2	12	3
Medium	2	3	5	-
Large	-	4	7	-
Public	2	8	16	1
Separate	2	1	9	1
Northern	2	2	8	-
Southern	2	7	17	2
All Boards	4	9	25	2

TABLE 51 -- FREQUENCY OF USE OF VACANT SPACE FOR CO-CURRICULAR AND RECREATIONAL PURPOSES

Board	Never or Rarely	Occasionally	Frequently	N/A
Urban	-	11	5	1
Rural	9	11	1	2
Small	7	9	1	2
Medium	2	6	1	1
Large	-	7	4	-
Public	3	18	4	2
Separate	6	4	2	1
Northern	4	6	2	-
Southern	5	16	4	3
All Boards	9	22	6	3

Vacant space was also used for co-curricular and recreational purposes such as lunch room, playroom, teachers' room, or kitchen. A majority of boards reported that vacant space was occasionally used for such purposes. The pattern of responses by type of board is presented in Table 51.

Boards which seldom if ever used vacant space for co-curricular and recreational purposes were generally small and rural; many were separate-school boards. Most of those which frequently used vacant space for these purposes were large, urban, public-school boards. The pattern seems to indicate that in these latter boards some vacant space is still available after the space needed for program enrichment and expansion of special education has been provided.

The large, urban, public boards were also more likely to report that vacant space was being used for administrative purposes. The pattern was very similar to that in Table 51.

Table 52 shows the extent to which boards of various categories made use of vacant space to decrease class size.

TABLE 52 -- FREQUENCY OF USE OF VACANT SPACE TO DECREASE CLASS SIZE

Board	Never or Rarely	Occasionally	Frequently	N/A
Urban	5	6	4	2
Rural	9	10	2	2
Small	7	8	2	2
Medium	3	4	2	1
Large	3	4	2	1
Public	8	12	5	2
Separate	6	4	1	2
Northern	7	5	-	-
Southern	7	11	6	4
All Boards	14	16	6	4

No northern board and only one separate-school board reported that they were frequently using vacant space to reduce class size. Five boards reported never having used vacant space for this purpose; another nine indicated that they had done so only rarely.

Most vacant space was being used for educational purposes while frequent use of vacant space for non-educational purposes was very much the exception. The results for each category of board are presented in Table 53.

TABLE 53 -- FREQUENCY OF USE OF VACANT SPACE FOR NON-EDUCATIONAL USES

Board	Never or Rarely	Occasionally	Frequently	N/A
Urban	8	6	2	1
Rural	19	2	-	2
Small	16	1	-	2
Medium	7	1	1	1
Large	4	6	1	-
Public	17	6	2	2
Separate	10	2	-	1
Northern	10	2	-	-
Southern	17	6	2	3
All Boards	27	8	2	3

The results of this preliminary study served as a starting point for a closer scrutiny of the use of vacant space which was initiated in the fall of 1975 and resulted in the present report.

THE RESEARCH STUDY

Purpose

The purpose of this part of the study was to determine the extent and nature of alternative daytime use of vacant space in Ontario schools and any advantages and problems associated with such use. Alternative daytime use, for the purposes of the study, was defined as the use of school space, during normal day-school hours, by persons other than the students enrolled in the school and the staff of the school. The Toronto Board of Education, one of the prioneers in community use of schools in Ontario, uses the term "parallel use" to describe the use of vacant educational space by the community during school hours (sometimes extending into the evening). Our definition of alternative daytime use of schools subsumes Toronto's parallel use but is a broader concept, since it includes use by other clients of the board (e.g. adult day classes, consultants' offices).

It is hoped that the experience gained by the boards already involved in alternative-use* programs will be of value to other boards now facing growing numbers of empty classrooms.

Methodology

The directors of education of 11 large boards were contacted with a request for participation in the study. Nine of these boards had indicated in the preliminary questionnaire that community use of schools was occurring within their jurisidiction; two more were added to increase the extent of the study. The four boards which had relatively small amounts of vacant space and few instances of alternative use were eliminated from the study, leaving seven participating boards: Etobicoke, Hamilton, North York, Ottawa, Sudbury, Toronto, and York Borough.

Through consultation with board personnel, 29 schools were chosen for study from among those in which vacant space was being used for other than regular instructional purposes.

An interview schedule was developed and interviews were conducted with the principals of the schools selected -- six by telephone, and each of the others in a personal meeting at the school. At 9 schools the tenants of space were also interviewed. Case studies of the alternative use of vacant space in 12 of these schools appear in an Appendix to this chapter.

FINDINGS

Extent and Location of Vacant Space

The differences in definition of alternative use made it difficult to gauge the extent of this use in the jurisdictions studied. However, with regard to community daytime use, some approximate figures will give an indication of the extent of use. In York Borough about 4 schools had some alternative use; North York, Etobicoke, and Ottawa reported approximately 7 or 8 schools involved; Sudbury, Toronto, and Hamilton had alternative users in about 15 schools. (These figures do not include adult day classes.)

In most boards no one person appeared to have all the information regarding the use of school space, although business officials were aware of any sharing which involved payment. Responsibility for alternative

---

*For most of the remainder of this chapter the words "alternative use" will be used as a short form of "alternative daytime use."

use fell to planners, coordinators of adult classes, community relations officers, and alternative-use coordinators. In some cases the use of vacant space was being arranged on an informal basis by the principal without direction from the central board office.

In an individual school, it was difficult to ascertain the amount of space being used, especially in basement areas.

All of the alternative-use examples were found to be in urban and suburban schools, and most were in elementary schools. Only two high schools involved in alternative use were located. This was predictable, since declining enrolment is only now beginning to affect high schools, and use of vacant space by the school itself is more likely at the secondary level. There are also special problems in sharing space in high schools.

The majority of schools studied are experiencing a continuing decline in enrolment because they are located in maturing communities. In some cases the decrease is expected to be at a rate of one class per school year but about one-third of the principals interviewed expected future re-development and/or immigration to affect future enrolment. Alternative use is occurring in all types of communities, as categorized by socioeconomic measures.

Vacant space was found in schools of all ages -- one of the schools involved had been built in 1895, and the most modern one in 1967. All principals stated that the buildings were in good condition.

Use of Surplus Space for Educational Purposes

One of the advantages of having vacant space is the opportunity for the extension of enrichment and/or remedial programs in a school. Almost all the principals interviewed indicated that usage of this type had occurred before the space was made available to outside users. A number of empty classrooms are now being used for special-education programs ranging from remedial reading to, in one case, an art therapy program. These programs are not necessarily used exclusively by the students in a particular school, since boards transport students in some cases to take advantage of them.

Additional ESL/ESD (English as a Second Language/English as a Second Dialect) classes may also put some empty classrooms to use.

In the area of enrichment, the most common conversion of a classroom was to a permanent French room. This is considered by principals and teachers to be a distinct advantage. In the past, French teachers have not

been able to create the proper "atmosphere" when forced to change rooms constantly. Also, the number of French immersion programs in increasing, and in at least three schools visited, vacant space is now being used for such programs.

Vacant rooms were often dedicated to mathematics, science, and music, or were converted into additional space for resource centres or kindergartens. Other uses included guidance areas and mini-gyms. Space is also being utilized for such general purposes as small-group work, audio-visual activities, and lunch rooms.

A few classrooms are now storage areas for school or board equipment. In two schools visited, board-employed consultants had offices, while one school housed a regional audio-visual supply centre. In two cases, classrooms had been "mothballed," that is, locked up in order to save on maintenance costs. One board official estimated the resultant saving to be $1,000 per classroom per year.

Most boards have the same order of priorities for the use of vacant space: enrichment, board programs (e.g., special education, adult day classes, English as a Second Language), use by resource people or central office personnel (e.g., consultants), community use. French immersion programs are rising in the order of priorities for many boards. Some boards give day-care centres or cooperative nurseries the highest priority, while others are less selective but favour social services in general.

Use of Surplus Space by Outside Agencies

Most schools used the available vacant space initially to enrich their regular school programs. The majority of principals were content with the facilities then available, although a few would have preferred to use some of the vacant space assigned to outside agencies. Two of the schools had actually lost enrichment rooms to alternative users -- one was a music room, the other a metrication room. In the latter case, the principal was not concerned about the loss since he regarded the metrication room as somewhat superfluous.

Almost all the rooms being used by outside agencies had originally been regular classrooms; other spaces had been an old gym, a playroom, and a general-purpose area in a basement. The number of rooms used by outside agencies in any one school varied, but most users used fewer than four rooms.

The most common type of alternative use was found to be some kind of day-care or nursery program -- almost half the schools in the study gave space to this type of service, either publicly or privately operated The case studies that appear in the Appendix describe the operation of these programs in several elementary schools, including Sanfield Macdonald, Amor de Cosmos, Dr. Duncombe, and Sam Hughes.

The second most common type of use was adult day classes. (Some boards do not define this as an alternative use because the programs are conducted by the board.) Most of the adult classes were recreational, offering such programs as flower arranging, ceramics, sewing, rug hooking, cake decorating, painting, yoga, and macrame, while others, such as typing, might be classified as job training. Two schools had adult ESL classes. An example of this type of use is provided in the case study of Grey Owl School (Appendix, page 200).

Over one-quarter of the schools investigated housed pre-school programs for children who were handicapped in one way or another -- mentally retarded, crippled, or emotionally disturbed. Examples include the study of Sanfield Macdonald School and Agnes Macphail, both of which house schools for retarded children; Peter Matthews Junior School, where a day-care centre for crippled children is located; and Harold Innis School, which provides space for a centre for severely emotionally disturbed children (Appendix, pages, 194, 199, 196, and 197, respectively).

Three schools had programs for senior citizens. One was an office where senior citizens could obtain help (Cora Hind School, Appendix, page 238); the others offered recreational facilities. The YWCA operated recreational programs in two schools and a municipal art class was using space in another. One school housed an agency which provides services for immigrants (Mary Grannan Junior School, Appendix, page 201).

There were also occasional (and in some cases, unusual) uses of space (not necessarily defined as vacant) which occurred at the discretion of the principal. One school had allowed small groups, e.g., the planning committee of the Scouts, to conduct short meetings from time to time. An enrichment program for adults and children in another community resulted in the building of a boat in a school basement. One principal permitted a local resident who was a weightlifter to make occasional use of the gym. The Red Cross was offering a course in one school.

The Etobicoke Board of Education has recently allowed a family court to occupy space in one school. At the time of interviews conducted for the study the court was not yet in operation but recent reports indicate that this type of use is working well.*

Apart from one notable exception -- a private nursery which had operated in the school for at least 20 years -- most alternative users had been occupying the school space for 2 years or less.

A school for emotionally disturbed children had a staff of 20, but in most cases less than 4 full-time staff members worked for an agency. In terms of those using the services, numbers of people in the school at any one time ranged from 5 (in a day-care centre) to 50 in a school for disturbed children. Of course, service agencies help a large number of citizens -- for example, immigrants or senior citizens -- but these clients are obviously not all in the school at any one time.

With regard to physical arrangements, about one-third of the tenants, mainly those agencies serving children, used a separate entrance from the school population, and at least four agencies have areas of the school which are entirely self-contained, e.g., a whole floor of the school. Facilities which are most commonly shared by users and school are the playground, the gym, and the library, although usually at different times. Users tend to have their own washrooms and telephone.

In two schools only, extensive alterations of the space had been made to meet the needs of alternative users. In most cases, alterations were minor, e.g., extra wiring for typewriters, fire doors, sinks.

Contacts between users and school children are mostly minimal, although in a few cases handicapped children share activities and/or certain classes with the other children. Staffs of both the outside agency and the school very often share the same staffroom.

The role of the principal with respect to the alternative users varies from school to school. In most cases his contact with the users is on an informal basis. A few situations may require a small amount of administration, e.g., timetabling the use of facilities or dealing with registration for adult day classes. Most principals like to be aware of what is happening in the school and visit the users from time to time.

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*The court is now occupying four rooms in an area quite separate from the rest of the school. There is no access into the school from the court. The alternative user had renovations carried out and built its own parking lot since residents had expressed concern regarding parking in local streets.

Problems of Alternative Daytime Use

More than half of the principals interviewed stated that there were no problems connected with alternative daytime use; the others had few complaints, mainly of a minor nature.

Some problems were peculiar to the type of use; others arose regardless of the type of use. Almost all the principals mentioned some slight disruption in the school office when the user did not have a phone. There were inevitable inquiries regarding the users which school secretaries could not answer. Obviously, separate phones are an advantage; but if that cannot be arranged the school office staff should be supplied with some basic information about the available services.

A few principals said there was a slight problem with noise, which might be resolved by the use of separate doors and/or rearranged schedules. One principal had limited the users to a certain area; in another case the principal moved the users to a room close to an entrance so that there was no traffic through the school corridors.

Some principals expressed concern about the safety of the children with extra traffic in the school yard, and one had requested a gate to control access.

Adult day classes create unique problems. School staff very often deal with the registration of adult students, thus increasing their own work load at the beginning of terms. Some boards have helped this situation by having registration at the board office. Most concern expressed was over smoking on the school premises. In most cases it is banned completely by the board, but one principal permitted the adult students to smoke in the staffroom.

Two principals expressed anxiety regarding fire drill. One felt that the users would have to be hooked into the school P.A. system. In one of the high schools which housed day care, the principal pointed out that the little children had to be watched carefully during evacuation.

Two principals had more serious criticisms of alternative daytime use. Supplies were being stolen from the school, and daytime users with access in the evenings were leaving doors open, with the result that unauthorized people came on the school premises.

Advantages of Alternative Daytime Use

The majority of principals felt that the advantages of alternative use to the school far outweigh the disadvantages. The most usual comment was that

parents are encouraged to visit the school, become more involved with school activities, and feel more relaxed in the school. Wider use is beneficial for the students inasmuch as they learn to mix with children of different age groups and with children with problems. In some cases it means that experts (e.g. psychologists) are readily available to deal with the problems of the regular school population, or to help parents of the school children (e.g. with immigrant services). Some principals said that the presence of a day-care centre in the school boosts enrolment, since it encourages parents of the children in day care to send them to the same school rather than to another one in the area. Two principals felt that alternative use was helping to keep the schools open.

The principals also thought that alternative use was good for public relations; residents are pleased that the vacant space is not being wasted. Some alternative use, especially day care and ESL classes, serves the needs of the community, and classes which train people in a particular skill are welcomed. However, this study showed that in many cases agencies located in schools serve people from a much wider geographic area than the immediate school neighbourhood, and it is debatable whether community needs are being served quite as extensively as principals suggest.

At the board level alternative use is encouraged mainly because it contributes to good community relations. Boards do not make a profit; indeed it may cost money to maintain such use.

The users interviewed were unanimous in their approval of the space and facilities provided in the schools. The case studies described in the Appendix provide more detailed information concerning 12 of the schools studied.

Leasing Arrangements

Leasing of surplus classroom space is subject to Ministry regulations. Because boards receive grants from the ministry toward construction and operation of school facilities, they are subject to negative grant where the facilities are used for non-school purposes. This occurs when facilities are leased for non-educational uses regardless of whether the board receives actual revenue. The regulation provides for the negative grant to be waived where:

1. The school continues to be administered by a principal.
2. The space is not altered and the lease is for a maximum of one year

or

The space is altered by the lessee and the lease is for a maximum of five years.

3. The lessee is an organization incorporated under Part III of The Corporations Act, Ontario, or is acceptable to the Minister.
4. The lessee pays the board a rental charge to cover only the operating costs of the space leased.

If a board alters the space to suit the lessee, these charges are not eligible for grant purposes. If the tenant pays the board for making the alterations, there is no reduction in the grant on recognized extraordinary expenditure. When a lease expires, and is not renewed, any cost to restore the space to its original use or a new use is not eligible for grant purposes.

In applications to waive the negative grant, if the ratio of enrolment to rated capacity *is less than* 60%, the Ministry requires from other school boards that may have an interest in using the vacant space a statement about such interest. This ensures that educational users have first access to vacant space.

All boards have some kind of written agreement with alternative users. This may take the form of a letter of agreement, but in the majority of cases formal leases are used. If the terms are arranged through a board's permit system, Ministry regulations do not apply.

The amount charged varies depending on the type of use, the user's source of funding (public or private), and the board's disposition. At least one board consults with local real-estate companies to determine appropriate fees. Some boards charge an amount per square foot per year (approximately $1.65); others charge between $14 and $25 per classroom per week. Provision may be made for escalation based on annual overall board maintenance and plant operation costs. One board allows free occasional use by community groups; another charges cooperative nurseries no fee because they are considered a substitute for junior kindergartens. The condition of the school building may also affect the fee charged. All alternative users located in this study were non-profit-making agencies.

Hours of use tend to be flexible; one board has an automatic clause in its lease permitting use from 8:00 a.m. until 11:00 p.m. Boards usually permit daytime users to extend their hours into the evening, although one board does discourage this.

Normally users are not charged extra for evening use but some boards charge for caretaking if required during school vacations. However, one board gives users a discount if the space is not occupied during vacations.

Application Process

Generally, an application is made for space in a specific school, chosen by the potential tenant on the basis of location and suitability of the space for his needs, which will state the desired type of use. Where the applicant does not request a particular school, the board will suggest appropriate accommodation. Boards may voluntarily offer vacant space to compatible agencies such as the Ministry of Community and Social Services.

In two of the boards examined, the planning department deals with applications for alternative use. The chief planner selects appropriate space for the user and consults with the principal. When agreement is reached among the parties, a recommendation is sent to the appropriate board committee and/or to the board for ratification.

Three boards process applications through the business office. Normally business officials check with the appropriate superintendent who in turn approaches the principal at the prospective school. In one case schools have consultative committees, comprised of teachers, parents, and trustees, which may examine the application of the alternative user and make recommendations to the board.

Another board has a policy which states that when a school has a defined number of vacant classrooms an alternative-use committee must be struck, including representatives from school and community, to make recommendations as to the use of the vacant space. However, potential users may apply directly to an alternative-use coordinator who approaches the area superintendent who then consults with the principal.

Principals are almost always permitted to comment on the suitability of the prospective tenants and in some cases have great influence in deciding which users are acceptable in their schools. A principal may also consult with his staff but generally teachers have limited input into the decision-making process.

Zoning by-laws do not seem to create problems with regard to alternative use. Boards are aware of the need to check zoning regulations before selecting space for an outside agency. At least two boards have worked with local municipal governments to effect changes in by-laws governing day care, so that these agencies can now be located easily in schools.

Tenants are required to comply with fire-marshal regulations. Boards may advise the user in this matter and may inspect necessary alterations when they are completed.

As the final step in the application process, a board requests the Ministry to waive the negative grant on revenue from the leased property.

One board indicated that the complete processing of an application takes approximately three months.

CONCLUSIONS

This study shows that alternative daytime use of schools is very successful. Where problems do exist, they tend to be minor and are usually resolved by cooperation between school and user.

The most satisfactory arrangements were found where the users had separate entrances and their own telephone, and operated on a different time schedule from the school.

Informal mingling of users and the regular school population is regarded as beneficial. Principals who made certain rules clear to the user at the beginning, such as which facilities could be used and when, where users should park, and what areas of the school were permitted for use, claimed that such prior agreements helped avoid friction.

Positive attitudes on the part of the principal, teachers, office staff, and user are the keystones to successful alternative use.

Since the amount of vacant space will continue to increase for several years, boards are considering other possible uses. One high school is currently conducting a survey as to the needs of the community and hopes to set aside the school's ground floor for community use.

APPENDIX: THE CASE STUDIES

As has already been indicated, case studies were made of 29 schools in 7 jurisdictions. The schools, with names changed to fictitious ones, are listed on the next 2 pages, together with the types of alternative use each supported. From these 29 case studies 12 (indicated by an asterisk in the list) were selected for inclusion in the report. The basis of selection was the avoidance of duplicate situations and the desire to cover as many types of alternative use as possible. These 12 case studies follow the list of schools.

List of Schools in the Sample Showing Alternative Daytime Use

SCHOOL	ALTERNATIVE USE
Agnes Macphail*	Nursery school for mentally retarded children
	Health course
Amor de Cosmos*	Day care
	Senior citizens' recreational group
Bobby Hull	Small group meetings
Bruce Marsh	Nursery school
Busy Beaver Secondary	Cooperative day care
	YWCA
Carmack	Cooperative nursery
Cora Hind*	Greenvale Golden Years
Dr. Duncombe*	Day care
Emmett Hall	Adult day classes -- ESL
Grey Owl*	Adult day classes -- ESL
Hanlan	Nursery school for mentally retarded children
Harold Innis*	School for emotionally disturbed children
John Cabot	Day care
	Adult day classes -- rug hooking, cake decorating, typing, sewing
Marilyn Bell	Adult day classes -- sewing, typing, office practice
Mary Grannan*	Immigrant services agency
Merrill Denison	Cooperative nursery
Nathan Cohen*	Adult day classes -- typing, painting, yoga
Onderdonk	Adult day classes -- yoga, macrame, flower arranging
	Nursery school

SCHOOL	ALTERNATIVE USE
Patricia Joudry	School for emotionally disturbed children
Peter Matthews*	Nursery school for crippled children
Petra Burka	Day care
	Senior citizens' recreational group
Robert Gourlay	Nursery school
	YWCA
Sam Hughes*	Cooperative nursery
Sam Steele	Nursery school for mentally retarded children
Sanfield Macdonald*	Day care
	Nursery school for mentally retarded children
	Municipal art class
Scarlet Maple C.I.	Adult day classes -- typing, office practice
Sir Leonard Tilley	Adult day classes -- typing, sewing, yoga, transactional analysis, flower arranging
Stanfield	Adult day classes -- flower arranging, ceramics, sewing
Stratas*	Montessori school

*Case studies follow on pages 194 to 207.

Selected Case Studies

SANFIELD MACDONALD JUNIOR SCHOOL

School and Community

This JK-6 school is located in an active community, almost like a village, in a large city in Ontario. Enrolment (presently at 83) is beginning to rise after a period of decline and the building of town houses in the area is expected to further bolster enrolment in the future.

At present, four classrooms, as well as a French room, gym, and library are used by the students; an additional classroom serves as a staff-room. Although the school was built in 1875, the facilities are considered adequate.

Since the principal shares responsibility for another school, he is rarely at Sanfield Macdonald. Consequently, the school is administered primarily by the vice-principal who also teaches full-time. The vice-principal was interviewed for this study.

Alternative Users

Four different users occupy six vacant classrooms at Macdonald: a municipal art class, a day-care centre, a school for mentally retarded children, and a coordinator.

The day-care centre, in its first year at the school, is operated by a municipal agency. One full-time staff member and five children occupy one room all day, five days per week, from 8:00 a.m. to 5:00 p.m.

Two rooms are used by the 25 children enrolled in the school for retarded children. These students, who are bused to the school, are kept separate from the regular students. They have their own door, and do not share any of the school's facilities.

The municipal art class occupies two rooms, the coordinator, one.

Assessment

Some problems have developed as a result of the alternative daytime use of vacant space in this school. One of the major difficulties has been the demand on the vice-principal's time. In addition to the increase in administrative work-load that four different users within the school entails, the vice-principal must also meet with appropriate community groups in the evening.

The school secretary is interrupted frequently by telephone calls for all the groups occupying space; in fact, the school telephone never stopped ringing during the interview.

A further problem reported by the vice-principal is the stealing of school supplies. To prevent this situation continuing, he has decided to install locks on the doors.

Despite these difficulties, however, considerable advantages are associated with this alternative use of space. Because enrolment had been dropping steadily, the question of closing the school -- a step the community is opposed to -- had been raised the previous year. There is no doubt that the location of these other programs in the school is helping to keep it open. Furthermore, it is the view of the vice-principal that the programs provided in the vacant space, particularly the day-care centre, meet needs of the community.

DR. DUNCOMBE JUNIOR SCHOOL

School and Community

Dr. Duncombe, a JK-6 school built in 1926, is located in an old, mainly middle-class community. Enrolment has declined rather sharply since 1961 when a student population of 900 required the use of one portable classroom. The present enrolment at 537 appears to be stable, probably because of increased immigration to the area in recent years.

The school uses 25 of 26 available rooms. Fourteen are used as grade classrooms, while the remaining 11 are employed for special purposes: three for special education, three for kindergarten, one as a lunch room, one for French, one for art and science, one for TV and drama, and one as a teachers' work room.

Alternative User

When vacant space became available in the spring of 1974, the principal explored the possibility of using it as a day-care centre. She approached a local residents' association that established a committee to determine community needs. When the response confirmed support for a day-care centre, a board of directors including representatives from the association, other

residents, and local politicians was formed, and successfully obtained a licence and incorporation as a non-profit organization. The centre was opened in one room of the school in September 1975.

Six children, ages three to nine, are enrolled in the program. The pre-school children attend from 7:30 a.m. to 6:00 p.m., while the older ones attend at lunch time and before and after the regular school day. Facilities and activities are shared by the regular students and the day-care children. The centre is staffed by one full-time and one part-time person.

Assessment

The principal reports no problems with the operation of the day-care centre in the school. She is personally involved in the project, acting as treasurer for the board of directors, and is particularly interested in the continued success of the centre. Unfortunately, the centre now faces the possibility of closing because of financial difficulties.

PETER MATTHEWS JUNIOR SCHOOL

School and Community

Peter Matthews Junior School is located in an upper-middle-class suburban area. The school was at capacity in 1968; since then enrolment has declined to 360 and is still declining at the rate of one classroom per year. There is no immigration into the area, and the high cost of housing deters families with young children from moving into the community.

Initially vacant space was used for a French room, a special-education room, a lunch room, and a combination music and teacher-preparation room. By knocking down a wall, an extension to the library was also provided.

Alternative User

A day-care centre for crippled children began operations recently in three rooms of the school. Two were originally classrooms, while one was a storage room. Fourteen children (seven in the morning and seven in the afternoon) attend the school, which is staffed by one part-time and two full-time employees with the assistance of volunteers. Although the day-

care students share some activities with the regular students and the staffs mix informally, on the whole, the centre operates independently. The crippled children are on a different schedule from that of the regular students and the centre has its own door, washrooms, and telephone. However, there are plans to integrate the crippled children into some of the school's regular classes next year.

Assessment

Since the day-care group moved into the space, no problems have arisen. However, there was some adverse community reaction before the decision was made.

Some parents suggested to the principal that the space be used to accommodate the grade 6 students who are sent to the senior school. To gauge community feelings, the principal sent out questionnaires and arranged meetings for parents and board officials. Board members at these meetings pointed out the advantages of the extra facilities at the senior school and the benefits that attendance there brought the grade 6 students. At one particularly noisy meeting some community members prevented the potential tenants from making a presentation; however, when a vote by secret ballot was taken among the parents, only 7 of 93 voted in favour of using the space for grade 6 classes.

The community has since become involved in the program and residents and students work as volunteers in the centre.

The principal thinks the location of the centre has encouraged local residents to accept the immigrant children who attend ESL classes in the school. The staff of the day-care centre expressed satisfaction with the conditions in the school and praised the principal highly for his cooperation.

HAROLD INNIS SCHOOL

School and Community

Innis, with a rated capacity of 1,000 students, had an enrolment of 489 students at the time of the interview. It is expected that the steady decline Innis had been experiencing may level off in the next few years.

Redevelopment, in-filling of residential lots, and some immigration often involving a larger number of families per dwelling, may help to stabilize or even increase enrolment.

Innis was built about 20 years ago with some more recent additions. At the time of the interview, 29 classrooms, in addition to two gyms, a library, two tutorial rooms, a nurse's room, a guidance room, a dentist's room, a health room, and some other tutorial rooms, were being used. Two additional rooms were occupied by special-education students who were bused to the school. When classrooms first became vacant, they were used for French, ESL, and kindergarten.

Alternative User

A private non-profit agency operates a centre for severely emotionally disturbed children in six rooms of the school. The centre, which has a staff of approximately 20, dealing with about 50 children aged 4-6½ who are bused to the school, has been occupying a whole floor of the school for about three years. At the time of the interview, the school was providing alternative accommodation for the agency (e.g., tutorial room, library) while their own area was being renovated. Regular school classes had been moved to provide the required space.

When the reconstruction is completed, fire doors will divide the centre from the rest of the school and there will be a separate entrance. The only shared facilities will be the gym, the library, and the play area. Both staff and students mix with the regular school population in these areas, and some disturbed children even attend regular classes in the school.

Assessment

A temporary difficulty is created by the reconstruction, which is behind schedule. The delay has caused administrative and morale problems for the principal as well as being disruptive to students and teachers who have been moved around; for example, the French teacher resents the loss of her classroom.

The more obvious adverse effects of the reconstruction include the noise, the extra caretaking duties as a result of the dust, etc., and the danger from vehicles, lumber, and scaffolding.

Other problems have also arisen. With doors being left open in the evenings, articles have been stolen from the school and teenagers have been able to get into the school to smoke.

Another problem is the lack of available space for other activities. Extra room is needed for remedial and tutorial work, and the limited-vision class may need more space. Some concern has been expressed by parents that the program in the school may be suffering because of space limitations. A request for space for a Greek school which the school cannot accommodate has come from some members of the community.

It is expected that these difficulties will be ameliorated when the construction is complete.*

The only advantage noted by the principal was that experts are available for consultation when children in the regular school have difficulties, e.g., speech therapists, psychologists, social workers.

AGNES MACPHAIL JUNIOR SCHOOL

School and Community

Macphail, built in 1962, was originally a K-8 school but the two senior grades were transferred about six years ago and JK classes subsequently introduced. Enrolment at the school appears to be stable.

Four of the school's 15 rooms are used by a private association for the mentally retarded. The school itself has adequate facilities including a library, gym, counselling and guidance space, and rooms for French and special education.

Alternative Users

Four vacant rooms in the school have been occupied by the association since September 1975. Fifteen children, who are between the ages of two and four and are physically and mentally handicapped, are enrolled in the program, which operates from 9:00 a.m. to 3:00 p.m. daily. These children are bused to the school. Five full-time employees staff the centre with the assistance of eight volunteers.

* The agency moved back into its own area in January 1976 and no further problems are reported.

Renovations to comply with the fire marshal's requirements and the installation of sinks were necessary before the association moved into the school. Equipment, except for a piano provided by the school, is supplied by the association. The children in the program do not use the school facilities nor do they mix with the regular school students.

Originally, one of the rooms taken over by the association was used as a math centre for the board, one was a metrication room, and another was used for ESL and as a lunch room. When the association took over the space, the first two uses were lost and ESL classes and the lunchroom were shifted to other rooms.

The principal had been consulted regarding the use of the space and the association had presented a case to the school's consultative committee (parents, teachers, and trustees) who agreed to their location at Macphail.

The school also houses a dental clinic and the Red Cross is currently seeking applicants for a course to be held on the premises.

Assessment

No one reported any problems in connection with the alternative use. The principal did not specify any advantages but the users find the arrangements very satisfactory. The staff appreciate not having to put away equipment every day as was necessary when they were located in a church basement. They would prefer some interaction between the retarded children and the students in the school, perhaps by sharing school functions, but the principal feels that the age difference between the two groups makes this difficult.

GREY OWL PUBLIC SCHOOL

School and Community

Enrolment at Grey Owl has been declining steadily since 1972 when portables were required to accommodate the students. At the time of the survey, 415 students, about half the rated capacity, were enrolled at Grey Owl. If the same rate of decline continues, the student population is expected to drop by about two classrooms per year; however, there is the possibility that development and an increasing number of immigrants to the area may boost enrolment in the future.

Nineteen of the school's 21 rooms are being used for regular school purposes: 14 as regular classrooms, two for storage, one for music and as headquarters for primary consultants, one for music and other activities, and one for French. In addition, the school has a library and a gym.

Alternative Uses

In 1974, when the board had informed principals that space was required for ESL classes for adults, the principal of Grey Owl, recognizing a need for language classes in the community, offered space in the school. Since September 1974, the two vacant rooms at Grey Owl have been used for this purpose two mornings per week. One of the rooms is used for teaching, while the other accommodates a nursery for the children of the adult students.

The adult students, who are mainly from the community, have a different schedule from the regular students and use their own rooms for the coffee breaks.

Assessment

No serious problems related to the adult day classes were reported. The school receives an average of three telephone inquiries per week and a few callers at the school requesting information that the school secretary does not have available.

The principal considers the adult day classes to be providing a needed service to the community, a service which the community appreciates. An additional advantage, in his view, is the familiarity with the school which the parents in the program gain.

MARY GRANNAN JUNIOR SCHOOL

School and Community

This school, built about 1962 with additions in the late 1960's, is located in an Italian community. At one time portables were required but enrolment has been declining, partly because of the transfer of students to the separate school. Present enrolment is 513 students in Grades JK-6

while the rated capacity is approximately 920. When vacant space first became available, the rooms were used for an art therapy program and for remedial reading.

Alternative User

One large area (5,000 sq. ft.) equal to four teaching areas was converted for use by an agency offering many kinds of free services to immigrants, including ESL classes, job-training, and counselling. There is a full-time staff of six, plus nine teachers who are board employees.

The area used by the agency is quite separate from the rest of the school. At one time agency staff and clients used the same door as the students, but because of noise in the corridors and traffic in the playground, this was changed. Children in agency pre-school programs have access to the playground at times when it is not in use by the regular students. No other facilities are shared, and the agency has its own telephone. The space is used by the board, which also provides the teachers, for evening classes to which students are often referred by the agency.

The principal has considered using the space occupied by the agency, but the teachers were opposed to teaching in an open-plan situation.

Assessment

Since the agency began using its own door, there have been no problems. The principal finds the agency staff most cooperative, and although the school office receives some inquiries concerning the agency, the office staff have not complained about the situation. The proximity of the agency is useful in that the school may refer immigrant parents who need help.

The agency staff feels that they are providing an essential service to the community. Although they are pleased with the space provided, they could use additional rooms and two more classrooms may be made available to them shortly.

SAM HUGHES JUNIOR SCHOOL

School and Community

Sam Hughes has an enrolment of 253 in Grades K-6. Enrolment is expected to continue to decline although a decrease was avoided this year by a change in attendance-area boundaries that ensured sufficient students to occupy two vacant classrooms.

The school is located in a maturing community where homes are expensive. There is some low-income housing with a transient population.

Alternative User

A cooperative nursery supervised by a paid teacher and volunteer parents has been operating for the last five years in what used to be a general-purpose room.

The pre-school children who attend the nursery in the morning five days a week use a separate entrance but have access to the school gym. The nursery staff mixes informally with the school staff, and the principal helps the nursery by ordering their supplies since he can get them more cheaply.

The board gives top priority to the use of vacant space for cooperative nurseries since they are regarded as substitutes for JK. All principals meet in June with the board to discuss any problems associated with the operation of the nurseries.

The facilities at Sam Hughes are considered satisfactory by the users, but the space will have to be vacated next year for a French immersion program being initiated in the school. In addition to this space, the new program will require the use of a portable classroom.

Assessment

There have been no problems associated with the operation of the nursery in the school. The principal thinks that it has encouraged the parents of pre-school children to enrol them later in Sam Hughes, thus bolstering enrolment.

CORA HIND SCHOOL

School and Community

This school, located in a multi-ethnic community, has a current enrolment of 790 pupils. The enrolment, after a period of decline, has recently started to increase.

The school uses, in addition to 28 regular classrooms, one lunch room, one guidance room, one general-purpose room, a gym, and a library. Another room is used for a music program operated by the school on a LIP grant.

Alternative User

Greenvale Golden Years, an agency that provides assistance to senior citizens, occupies one room in the basement of Cora Hind. The agency had originally operated out of the lobby of the school, but in the fall of 1974 requested other accommodation. Both the principal and the board were willing to grant this request particularly since the basement room is not considered by the principal to be suitable for teaching.

The space is used essentially as an office with one staff member in charge, while other staff members and senior citizens are rarely in the school. The agency and its clients use the school door and washrooms, but have their own telephone.

Assessment

There is a great deal of cooperation between the user and the school staff. Only one minor complaint was expressed by the staff of Greenvale Golden Years -- the office is next door to the students' washroom and there is some noise there during recess.

NATHAN COHEN JUNIOR SCHOOL

School and Community

Nathan Cohen Junior School, located in a mature, affluent, upper-middle-class community, was built in 1957 with a capacity of 800 students. During the last five years enrolment has declined to 324 students.

Thirteen of the school's 22 rooms are regular classrooms while two serve as a library, one is used as a lunch room and to store audio-visual equipment, and one is used for special education, music, speech, reading, and as another lunch room, and one for reading groups, duplicating, and other activities.

Adult day classes occupy three rooms, one of which is also used as an art room by the school. One vacant classroom is "mothballed."

Alternative User

When rooms first became vacant, the principal explored ways of using the space for community purposes by speaking to individuals and inviting the community to a coffee party to discuss possible uses. However, no requests from the residents for the space were forthcoming.

Adult day classes in typing, painting, and yoga are held four days a week, Monday through Thursday. About 58 adult students, many of whom come from outside the community, attend the classes. The three teachers are allowed to use the school staff room and typing students are permitted to use school office equipment (duplicating machine) for practice.

Assessment

No problems have arisen from this type of use. The principal views the involvement of the adult students, some of whom have children in the school, as an advantage.

STRATAS PUBLIC SCHOOL

School and Community

Stratas is an inner-city school situated in a district where there is some immigration and where many children come from single-parent homes. Enrolment, which has declined slowly over the last five years, is currently about 760 students in Grades JK-5. The school uses 32 of the 33 classrooms, a gym, and a library.

Alternative User

A Montessori school that operates with two full-time staff members and parent volunteer help is located in a small JK classroom in the school. The 20 children enrolled in the school attend from 9:00 a.m. to noon every day.

The Montessori school shares many of the facilities of the regular students. They use the same door and washrooms, and have access to the gym and library on a different schedule from Stratas' students. The Montessori school does have its own phone.

Assessment

The organizers of the Montessori school originally contacted the principal with a request for space in this school. Since he considered the school to be an asset to the community, he sent an accompanying letter of support when the group made a formal application to the board. Some of the Montessori students have siblings at Stratas and the principal believes that when parents of these children are encouraged to visit the Montessori school, they become more involved with the regular school program.

Neither the principal nor the Montessori staff report any problems associated with this alternative use. Staffs of both schools mix well, and the facilities are considered satsifactory by the Montessori staff.

AMOR DE COSMOS SCHOOL

School and Community

This school is located in an area with a high rate of crime and juvenile delinquency; nevertheless, there seems to be a strong community spirit which is fostered by the staff at Cosmos. The school functions as a community centre, a concept strongly encouraged by the vice-principal who administers the school.* Several different community activities,

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*This is a "twinned" school and the principal spends most of his time at the other school.

including dance classes, recreational activities for senior citizens, etc., take place in the school, which is open from 7:30 a.m. to 10:00 p.m.

The school operates on a modified family grouping plan and the students are encouraged to participate in decision-making on a democratic basis. About 206 students are enrolled in Grades JK-6. Enrolment is currently stable but the opening of a new freeway raises the possibility of further decline.

Alternative User

In addition to the informal activities occurring regularly at Cosmos, a day-care centre has been occupying two former classrooms for the past two years. The choice of user was made following a study conducted by the school to determine the best use for the vacant space.

Fourteen pre-schoolers and twelve children who attend after regular school hours are enrolled in the centre and are supervised by three full-time and one part-time staff member. Most of the children from the day-care centre progress into the regular school program.

There is a great deal of interaction between the day-care children and the regular students. The children and staffs of both schools share all facilities and activities and a day-care staff member attends Cosmos staff meetings.

Assessment

The philosophy of the vice-principal permeates all the activities which take place, and Cosmos operates very much as a community centre. In this environment, the day-care centre functions more as a "branch" of the school than as an alternative user. Neither the vice-principal nor the day-care-centre staff report any problems, and the day-care staff find the facilities at the school most satisfactory.

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